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Before the

UNITED STATES COPYRIGHT ROYALTY BOARD

Library of Congress

Washington, D.C.

In Re:	: Docket No.
	: 15-CRB-0001-WR
Determination of Royalty	: (2016-2020)
Rates and Terms for	: Volume 16-PUBLIC
Ephemeral Recording and	: Pages 4184-4226
Digital Performance of	: Pages 4324-4410
Sound Recordings (Web IV)	: Pages 4468-4509

PUBLIC SESSION

ORIGINAL

Washington, D.C.

Monday, May 18, 2015

         The hearing in the above-entitled matter

was convened at 9:12 a.m.

BEFORE COPYRIGHT ROYALTY JUDGES:

   SUZANNE M. BARNETT, CHIEF JUDGE

   DAVID R. STRICKLER, JUDGE

   JESSE FEDER, JUDGE

4185

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     Choudhury, Colin Rushing, Jonathan Blavin, Jennifer
14   Bryant, Kuruvilla Olasa, Rachel June-Graber

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1   C O N T E N T S

2 EXAMINATION OF	DIR	CROSS	RED	REC
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3				
BY MR. LARSON	4194		4312	
4 BY MR. KLAUS		4236		4321
5				
6 EXAMINATION OF				
STEPHAN MCBRIDE				
7				
BY MR. MARKS	4324		4456	
8 BY MR. CHOUDHURY		4354		
9				
10 EXAMINATION OF				
CARL SHAPIRO				
11				
BY MR. RICH			4468	

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 1              EXHIBITS ADMITTED IN EVIDENCE

 2
      Pandora
 3    Exhibit 5007        Written Direct Testimony     4195
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 4    Exhibits
      5008-5015           Exhibits to Michael Herring  4196
 5                        Direct Testimony
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 7
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 8    Exhibit 2233        E-Mail dated 8-6-14          4242
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10    Exhibit 308         E-Mail dated 4-4-14          4264
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11    Exhibit 1706        E-Mail dated 6-17-14         4281
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12                        Engineering Assessment
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13    Exhibit 1748        Pandora Direct Deal Review   4287
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14    Exhibit 2310        Spreadsheet (natively)       4297
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15    Exhibit 319         Pandora Product &            4303
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16    Exhibit 1673        LTV Model 8-26-14            4305
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17    Exhibit 327         E-Mail                       4415
      Exhibit 2307        E-Mail                       4419
18    Exhibit 333         E-Mail dated 6-26-14         4421
      Exhibit 2303        E-Mail                       4423
19    Exhibit 328         Music Sales Experiment       4432
      Exhibit 329         E-Mail dated 6-30-14         4436
20    Exhibit 331         E-Mail dated 8-1-14          4439
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21    Exhibit 315         E-Mail dated 5-5-14          4445

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1   P R O C E E D I N G S

2

3   (PUBLIC SESSION)

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5   CHIEF JUDGE BARNETT: Good morning.

6   Please be seated.

7   Mr. Klaus, you were on your feet. I

8   mean, everyone was on their feet, but you looked --

9   MR. KLAUS: I was just the slowest to

10   sit down, Your Honor. So I didn't actually have

11   anything to say.

12   CHIEF JUDGE BARNETT: You looked

13   expectant.

14   MR. POMERANTZ: May I proceed, Your

15   Honor?

16   CHIEF JUDGE BARNETT: Yes, you may.

17   MR. POMERANTZ: Your Honor, I have one

18   issue to raise before Mr. Larson gets started.

19   Last week, Judge Stanton of the Southern District

20   of New York issued a ruling in the BMI/Pandora rate

21   court proceeding. It is not publicly available

22   yet. It is about 50 pages long. We have been

23   trying to get access to it through Pandora's

24   counsel in this case and have, thus far, been

25   unsuccessful. We believe it may be relevant to

1   issues that we would cross-examine witnesses on

2   today, but we don't know for sure until we see the

3   opinion.

4   But, for example, Mr. Herring was a

5   witness by deposition in that case. Mr. McBride,

6   the next witness, testified about the very same

7   experiment that's at issue in this case, and I --

8   we have talked to BMI's counsel. They have told us

9   that they can provide us with the decision under

10   the protective order in this case with simply

11   redacting third party, not -- not Pandora, not BMI

12   information, but like publishers' information, and

13   they were willing to do so, but we haven't yet been

14   able to get the concurrence of -- of Pandora. So

15   we are, therefore, without the decision this

16   morning.

17   All I would request at this point in

18   time is that we have the -- you know, preserve our

19   rights on that. We may ask to recall a witness.

20   And, obviously, we'll ask permission to do that.

21   We may not need to do that. Our understanding is

22   that the decision will be made available publicly

23   later this week. Unfortunately, the three

24   witnesses for Pandora are testifying today and

25   that's why we were trying to get it before today.

1 And I just wanted to, I guess, alert the panel that

2 we asked for this decision. We have not been able

3 to get it. And so if we come back to this issue

4 later on, I just wanted to make clear that we have

5 tried.

6   CHIEF JUDGE BARNETT: Mr. Pomerantz, in

7 general terms, what do you think the rate court

8 might have said that would be relevant to this

9 proceeding?

10   MR. POMERANTZ: It -- it may have been

11 critical of the music sales experiment that

12 Professor -- I'm sorry, that Dr. McBride will be

13 testifying about later today. It may be talking

14 about some of the same issues as to convergence or

15 other issues. There's a lot of similarities

16 between some of the issues that were being

17 litigated there and litigated here. There's also

18 differences. There's also differences.

19   And because, quite frankly, Mr. Rich --

20 neither Mr. Rich nor I know what's in the decision,

21 it leaves us a little bit hamstrung as to know

22 whether it really is relevant to what's going on

23 here today. I was just hoping to know that before

24 we cross-examine these witnesses.

25   CHIEF JUDGE BARNETT: I just wanted to

1 make sure that you weren't talking about anything

2 having to do with the rates themselves.

3   MR. POMERANTZ: No, no, no, no. No,

4 no. Not the rates themselves.

5   CHIEF JUDGE BARNETT: Okay. Mr. Rich.

6   MR. RICH: Thank you.

7   If I may put a little further context

8 on this. That is a Federal District Court

9 proceeding under the auspices of the government

10 consent decree regulating BMI, involving different

11 copyright rights, involving the value of the BMI

12 repertoire for the musical works performing rate.

13 A separate record -- separate counsel. We are not

14 involved in that case. The decision was issued

15 under seal subject to a set of procedures set forth

16 by Judge Stanton working with outside counsel to

17 identify potentially redacted material that will

18 work its way through in the ordinary course,

19 notwithstanding counsel for BMI's characterization

20 of what could and could not be released. Our

21 understanding is it would have been entirely

22 inappropriate privately to provide some, even if we

23 were in a position to, which we're not, some

24 version prior to that process playing out. It's

25 purely speculative as to what, if any, relevance

1 there would be to any witness appearing here today.

2 I can't speculate to what I think. It's highly

3 unlikely and tangential.

4   Needless to say, if upon the public

5 release of that document Mr. Pomerantz feels there

6 is some basis for having some further colloquy

7 about it as opposed to, perhaps, briefing its

8 consequences in the post trial briefing, we would

9 be happy to discuss it at that time.

10   MR. POMERANTZ: That's fine, Your

11 Honor.

12   CHIEF JUDGE BARNETT: Thank you.

13   I do think, Mr. Pomerantz, it may be a

14 bit premature. I mean, even though we are not all

15 powerful, please be reminded that we do have the

16 ability to call witnesses on our own if we feel

17 it's necessary or -- and appropriate. It's not

18 something we're planning to do right now, either,

19 because we're all operating in a vacuum.

20   So, if necessary, you can raise the

21 issue again later and we can deal with it in

22 that -- at that time in some appropriate way.

23   Good morning, Mr. Larson.

24   MR. LARSON: Good morning.

25   CHIEF JUDGE BARNETT: Mr. Herring, you

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1   remain under oath.

2   MR. LARSON: Yes. Thank you.

3   May I hand out some binders here?

4   CHIEF JUDGE BARNETT: Oh, good.

5   MR. LARSON: Wouldn't be a day at CRB

6   without binders.

7   There are demonstratives inside.

8   Tucked inside of the binders are a small set of

9   demonstratives, as well.

10 MICHAEL HERRING,

11 having been previously duly sworn, to tell the

12 truth, the whole truth, and nothing but the truth,

13 testified as follows:

14   DIRECT EXAMINATION BY COUNSEL FOR PANDORA

15   BY MR. LARSON:

16   Q.   Welcome back, Mr. Herring.

17   A.   Thank you.

18   Q.   We're here today to discuss your

19 written direct testimony; is that correct?

20   A.   That's correct.

21   Q.   Okay. And that appears in the binder

22 in front of you, is the tab identified as Pandora

23 Exhibit 5007; is that right?

24   A.   Yes.

25   Q.   And can you just check for me on the

1   last page that that's your signature on the

2   exhibit?

3   A.   It is.

4   MR. LARSON: Your Honor, we'd offer

5   Pandora Exhibit 5007 into evidence.

6   MR. KLAUS: No objection, Your Honor.

7   CHIEF JUDGE BARNETT: 5007 is admitted.

8   (Pandora Exhibit No. 5007 was admitted

9   into evidence.)

10   MR. LARSON: And we would also offer

11   Pandora Exhibits 5008 through 5015, which are also

12   in the binder, in evidence.

13   CHIEF JUDGE BARNETT: 5008 through

14   what?

15   MR. LARSON: 5015.

16   Yeah, 08 through 15.

17   CHIEF JUDGE BARNETT: 15, okay. Thank

18   you.

19   MR. KLAUS: And, I believe, Your Honor,

20   these were the exhibits to Mr. Herring's direct

21   testimony. We do object on hearsay grounds to the

22   newspaper article that's attached at 5011 and the

23   newspaper article that's attached at 5013. No

24   objection to the documents coming in as evidence of

25   what was stated in a newspaper article, but we do

1 object to consideration of any of the statements

2 therein for their truth.

3   MR. LARSON: Your Honor, we disclosed

4 these exhibits to SoundExchange on their objections

5 to the exhibit list that they sent to us. They did

6 not include a hearsay objection. So we believe

7 that objection is moot.

8   CHIEF JUDGE BARNETT: The objection is

9 overruled. We will give whatever weight they are

10 due.

11   MR. LARSON: Thank you, Your Honor.

12   BY MR. LARSON:

13   Q.   Mr. Herring, could you take a look at

14 Slide 1 on the demonstratives in front of you?

15   A.   Yes.

16   CHIEF JUDGE BARNETT: I'm sorry.

17 Before you do that -- thank you, Judge Feder. 5008

18 through 5015 inclusive are admitted.

19   (Pandora Exhibit Nos. 5008 and 5015

20 were admitted into evidence.)

21   BY MR. LARSON:

22   Q.   Mr. Herring, do you recognize Slide 1

23 as the topics covered in your written direct

24 testimony?

25   A.   Yes.

1   Q.   Okay. And am I correct that you

2 testified to a number of these topics when you were

3 here testifying about your written rebuttal

4 testimony?

5   A.   Yes.

6   Q.   Which topic on the slide will you be

7 focusing on today?

8   A.   The first bullet, the Pandora-Merlin

9 agreement.

10   Q.   Okay. Let's talk about that.

11   Did there come a time when Pandora

12 decided to explore the feasibility of direct

13 licensing with record labels as an alternative to

14 securing rights to the statutory license?

15   A.   Well, yes. And at that time, actually,

16 preceded my working at Pandora sometime in 2012,

17 but has been an initiative at Pandora since the --

18 you know, for my entire time at the company.

19   Q.   And what was Pandora's rationale for

20 considering direct licensing?

21   A.   Well, we believed that we would like to

22 have better partnerships with the music labels and

23 music publishers and we also believed that we could

24 do deals with the music labels specifically where

25 we provided terms that might create lower prices

1 for the, you know, lower royalty rates for the

2 music that we played, and we were looking for a way

3 to introduce price differentiation into our

4 business model.

5   Q.   When you say, "price differentiation,"

6 is that the price competition that you mention in

7 Paragraph 23 of your testimony?

8   A.   Yes.

9   Q.   Were there any other sort of

10 relationship benefits or relationships with artists

11 and record labels that were part of your direct

12 licensing strategy?

13   A.   Yes. We have a pretty broad strategy

14 to build closer relationships with the music

15 industry with both labels and publishers. And we

16 have several initiatives that we wanted to

17 experiment with to roll out and test their

18 effectiveness, and we felt the best environment to

19 do that would be in a direct label -- in a direct

20 relationship.

21   JUDGE STRICKLER: In that regards, you

22 mentioned experiments. I want to understand the

23 time sequencing because we'll hear later from Mr.

24 McBride with regard to experiments.

25   THE WITNESS: Yes.

1   JUDGE STRICKLER: The experiments that

2 he's testifying to preceded the execution of the

3 Merlin agreement?

4   THE WITNESS: So I might have conflated

5 two concepts here. So I was referring there to our

6 ability to use our platform to connect artists with

7 listeners. And, in that context, you know, create

8 value and benefits for the labels and artists, you

9 know, outside of just writing a royalty check. So

10 that's things like direct messaging and promoting

11 of tours and things that they can do on our

12 platform directly with listeners.

13   The experiments you're talking about,

14 one set of those was done in 2013. The second set

15 was done in 2014, were ongoing when we actually

16 signed -- the second set was ongoing, maybe the

17 first section was done when we signed the deal with

18 Merlin.

19   JUDGE STRICKLER: Was there any

20 experiment undertaken before the Pandora-Merlin

21 agreement was executed?

22   THE WITNESS: Yes. The steering

23 experiments we did in 2013 were -- preceded the

24 Merlin agreement.

25   JUDGE STRICKLER: Preceded and were

 1 completed before the execution of the Merlin

 2 agreement?

 3   THE WITNESS: Yes. Before we even

 4 started negotiating.

 5   BY MR. LARSON:

 6   Q.   That leads directly into the next

 7 questions I have for you, Mr. Herring.

 8   First of all, can you just explain just

 9 what were the steering experiments, as you referred

10 to them?

11   A.   So there's really two sets of them.

12 One set was in 2013 where we instructed our

13 engineers and data scientists to -- to experiment

14 with overspinning indie labels at various levels

15 and measure the effect on listening. So the number

16 of times listeners returned, how long they

17 listened, and whether there was a negative effect

18 on retention rates of listeners over a period of

19 time.

20   Q.   And why did you run those experiments?

21   A.   Well, we wanted to see -- we believed

22 that our platform is promotional. We wanted to see

23 if we could overspin above the natural rate indie

24 labels as a way of incentivizing lower payments for

25 royalties.

1   Q.   Okay. When you say, "overspin," what

2 does it mean to steer towards a label or to

3 overspin them by, say, 40 percent? Can you just

4 explain.

5   A.   Yeah. At a high level, it's just

6 the -- there's a natural rate that we measure that

7 a certain label's artists would spin on Pandora and

8 that does vary somewhat, but it doesn't vary a lot.

9 You know, outside of a new hit, a massive hit being

10 put into the system and being listened to a lot by

11 listeners is just relatively steady.

12   What we do is we take that natural rate

13 and let's say for just illustrative purposes a

14 label had represented one percent of our spins, if

15 we were to overspin by 40 percent, we would, you

16 know, put extra weight on that label's songs in the

17 algorithm such that they would spin 1.4 percent of

18 our spins would be made up by that overspin label.

19   JUDGE STRICKLER: You calculate an

20 actual rate based on the label's natural rate, not

21 the art -- not an artist's natural rate?

22   THE WITNESS: We do it both ways. We

23 can do it both ways.

24   JUDGE STRICKLER: Which way did you do

25 it in the experiments?

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1   THE WITNESS: We did it by label.

2   BY MR. LARSON:

3   Q.   Okay. And what -- looking just at the

4 first set of steering experiments, what were the

5 results of that first set?

6   A.   The first set demonstrated that we

7 could overspin indie labels and we specifically

8 targeted indie labels in the first set in 2013.

9   CHIEF JUDGE BARNETT: Is any of this

10 restricted?

11   MR. LARSON: No. I believe we can stay

12 in public record.

13   CHIEF JUDGE BARNETT: Thank you.

14   THE WITNESS: So I'll be careful.

15   You know, as much as 40 to 80 percent.

16 So we -- there was a lot of leeway within to -- to

17 spin indie labels much higher than their natural

18 rate.

19   BY MR. LARSON:

20   Q.   And how did the second set of steering

21 experiments differ from the first?

22   A.   The second set was set up to

23 specifically measure our ability to over and under

24 spin major labels by as much as 30 percent.

25   Q.   Okay. So returning, again, to the

1 first steering experiments, did Pandora begin

2 approaching record labels to attempt to negotiate

3 direct licenses after that first set of steering

4 experiments?

5   A.   Well, we've always been having

6 conversations with record labels, both majors and

7 indies. But we got more serious about potential

8 terms, specifically with indie labels following

9 those steering experiments where we were confident

10 we could deliver on proposed terms.

11   Q.   Okay. And how did you decide who to

12 approach?

13   A.   Well, you know, Pandora is about 35

14 percent of our spins generally are by indie labels

15 or not the three major labels, and so we have a

16 natural propensity to be attractive to the indie

17 labels. Indie labels view Pandora positively and

18 seemed more predisposed to do a direct deal and

19 to -- and to value the additional exposure on

20 Pandora. We just did -- although we had lots of

21 conversations with the majors, that didn't seem --

22 you know didn't seem to be taking it seriously.

23 Their offers involved adding additional services

24 like me to on-demand services to compete with

25 Spotify, et cetera, which we weren't -- was not on

1   our strategic roadmap.

2   Q.   So, how did you decide to approach

3   Merlin as opposed to other independent labels?

4   A.   Well, there's thousands of indie labels

5   and one of the advantages Merlin gave to Pandora

6   was the ability to negotiate with a single entity

7   and agree on a set of terms that then could be

8   adopted by thousands of their member labels. So --

9   and that was an opportunity to do a lot of deals

10 with smaller labels all at once, rather than going

11 one by one through indie labels.

12   Q.   And just so the record is clear, can

13 you explain in a general level who Merlin is or

14 what Merlin is?

15   A.   Yes.

16   Merlin, generally, is a consortium that

17 negotiates or that prosecutes copyright violations

18 on behalf of their membership as well as negotiates

19 licenses on be -- on, you know -- on behalf of

20 their membership that have to be opted in by the

21 members. So they will negotiate a set of terms

22 with say YouTube or Pandora, and then their members

23 can then, you know, voluntarily agree to operate

24 under those terms or not.

25   Q.   Okay. And did Pandora make the first

1 sort of offer proposal in the Merlin negotiations?

2   A.   We did, yes.

3   Q.   And how did you arrive at the rate that

4 you initially proposed to Merlin?

5   A.   Well, with a little bit of art and

6 science. Our original proposal was a unitary rate

7 of .0011, and that is a combination of, you know,

8 experience and looking at our business model and

9 finding a balance between what we thought was a

10 rate that we could thrive as a business, we could

11 still have the right investment levels based upon

12 our monetization potential, and also pay a fair

13 royalty back to the copyright holders.

14   JUDGE STRICKLER: So the .0011 was

15 initially proposed by Pandora to Merlin?

16   THE WITNESS: Yes.

17   BY MR. LARSON:

18   Q.   What role, if any, did the --

19   CHIEF JUDGE BARNETT: I'm sorry.

20   Mr. Herring, I'm curious, if you know,

21 did you propose this per-play rate because that was

22 what was extent under the CRB rules, or did you

23 consider other rate structures and then divide that

24 the per-play rate was the better of the others?

25   THE WITNESS: So you mean as a

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1   structure versus a percent of revenue?

2   CHIEF JUDGE BARNETT: Correct.

3   THE WITNESS: Okay. Because it's a

4   different rate, obviously, than what the per-play

5   rates were. There was a couple reasons why we went

6   per play versus percentage of revenue. In general,

7   it's because the percentage of revenue thresholds

8   that we thought were fair and appropriate we

9   wouldn't be -- you know, be hitting any time, you

10   know, as a -- would have already been a big drop in

11   the existing revenue that we would have paid to the

12   labels. We didn't think that -- at the time, I

13   mean in late 2013 or early 2014, you know, we're

14   paying 55 percent of revenue or so based upon on

15   the Pureplay rate at the time, and that wasn't

16   something that we would have agreed to and so that

17   -- so the percent of revenues we thought were

18   appropriate would have been impossible at the time

19   for Merlin to agree to, or, you know, would have

20   not been palatable.

21   When we looked at the Pureplay rate,

22   we're okay with Pureplay rates in the context of

23   it's a very defined cost and so that, you know, the

24   monetization becomes my problem. Right? I'm just

25   pay ing the fee to them, but it's also my

1 opportunity. So as Pandora can drive its own

2 monetization, that's how we've been able to drive

3 our gross profit up because we have, potentially, a

4 fixed rate on a per song basis.

5   JUDGE STRICKLER: At the time that you

6 proposed the .0011 per-play fee, did you have an

7 understanding of what you thought that would --

8 equilibrate to in terms of percentage of revenue

9 for Pandora on a pro rata basis for the Merlin --

10   THE WITNESS: Yes.

11   JUDGE STRICKLER: -- labels that would

12 sign on. I realize there's a lot of moving parts

13 to it.

14   THE WITNESS: So you mean in a vacuum,

15 or if there was, you know, a hundred percent of

16 our --

17   JUDGE STRICKLER: What was your

18 projection?

19   THE WITNESS: So at the time we made

20 the initial proposal, I believe the rates we were

21 paying were .0012, so it wouldn't have been a

22 significant decrease off the ad rate. But we did

23 propose a unitary rate.

24   JUDGE STRICKLER: Well, what did you

25 think that would result in in terms of percentage

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1 of revenue?

2   THE WITNESS: Yeah.

3   It probably would have been slightly

4 below -- if we were 55 percent, it would have been

5 like, you know, 52 percent of revenue, and that's

6 my approximate guess. We did the analysis, but the

7 point-in-time analysis isn't as important as how it

8 works over time when we do these sorts of deals.

9 So it's about projecting where we think our

10 monetization could go and whether that and how that

11 per-play rate impact our ability to invest and grow

12 the business.

13   CHIEF JUDGE BARNETT: I have another

14 question.

15   THE WITNESS: Sure.

16   CHIEF JUDGE BARNETT: Did you think

17 Merlin just wouldn't go for the percentage of

18 revenue rate because of the shock factor, or was it

19 really substantially different from what you would

20 be paying them per play?

21   THE WITNESS: The percent of revenue

22 rate historically, at least from our perspective,

23 plays a different role. So the Pureplay rate

24 ensures that the labels get paid something as our

25 model develops, maybe is the best way of putting

1   that. If it was just a percentage of revenue

2   basis, we would be accused of not driving revenue

3   high up. We still get accused of that, but

4   generally speaking, that -- because there's a

5   pure -- per-play rate -- sorry -- that that

6   protects against that. Right? That monetization

7   is important.

8   On a -- we believe that long-term

9   percent of revenue actually aligns our interest a

10   lot more directly. It's actually one of the

11   reasons when Merlin proposed the 25 percent floor

12   as a percent of revenue, we were okay with that

13   level. Even though we didn't think during the term

14   of this agreement, at least in the first two years,

15   likely in the next two years we would achieve a

16   moment where we would be paying on the percent of

17   revenue basis, we thought 25 percent of revenue was

18   a, you know, an appropriate level of revenue share

19   that where we could still invest aggressively and,

20   you know, earn a return on our investment to pay

21   off -- pay for the investing we made historically,

22   but also pay a reasonable royalty to the copyright

23   holders and let them share in the upside.

24   Now, one of the problems with the

25   per-play rate is that if we -- if I'm monetizing at

4210

1   $200 revenue per thousand hours, you know, all that

2   upside accrues maybe to us, and I would say it

3   sounds great for Pandora but in a world where we're

4   partners, that's not a great outcome. So it

5   protects them in the event that there's significant

6   upside on the revenue side and so they get to

7   participate in that revenue upside.

8   So finding that's part of the win-win

9   in these negotiations. We started in one place

10 that worked for us economically. We got there

11 eventually through a lot of give and take, but also

12 by adding things that made it a win-win on both

13 sides of the table.

14   BY MR. LARSON:

15   Q.   A couple of follow-up questions, if I

16 could on that, Mr. Herring.

17   First of all, in the answers that you

18 were giving in the colloquy with the judges, a

19 number of times I think you referred to Pureplay

20 rates. I just want to be clear for the transcript,

21 is that -- you're referring to Pureplay rates or

22 per-play rates?

23   A.   I was referring to the per-play rates

24 structure, not -- not the Pureplay rates that we

25 operate under.

1   JUDGE STRICKLER: You used the word

2   "pure" to distinguish it from the greater-of

3   formula? That's your use of the word "pure"?

4   THE WITNESS: No. I meant per play

5   meaning just a cost per play song, not -- no

6   reference to the -- to the settlement rates.

7   BY MR. LARSON:

8   Q.   And another follow-up question, I think

9   you said that the per-play rates you initially

10 proposed would have resulted in a paying -- Pandora

11 paying a percentage of revenue somewhere in the

12 neighborhood of 50 percent; is that right?

13   A.   I think at -- in the moment that we

14 proposed it, that would have been correct.

15   Q.   And how would that -- according to your

16 projections of monetization and the like, how would

17 that percent of revenue change over time in those

18 per-play rates?

19   A.   Well, I mean, that percent of revenue

20 would have dropped alongside our ability to drive

21 monetization. So in that same time over the period

22 of being front to late 2013 to now, our

23 monetization increased significantly where our

24 percent of revenue paid today is in the 40s. If we

25 were, you know, paying it at a -- at the .0011 cent

1 per play -- per-play rate, you know, that would be

2 probably closer to 40 percent.

3   Q.   Okay. And where do your projections

4 show that rate going out over the next couple of

5 years? In other words, would it drop below 40

6 percent?

7   A.   Yeah. Well, I mean, we intend to

8 continue to invest in our monetization levels, you

9 know. If it remained at .0011 for the -- you know,

10 for the next few years, we certainly would approach

11 25 percent of revenue in terms of label payments.

12   JUDGE STRICKLER: Now we're talking

13 about just Merlin?

14   THE WITNESS: If that -- if that was

15 the rate that we paid overall. Just Merlin.

16 Because Merlin is a little over 6 percent of our

17 spins, that rate by itself doesn't move. You know,

18 it's not enough to make a material difference to

19 the percentage of revenue. You know, maybe a

20 hundred basis points of 150 basis points, but not

21 5, 6 percentage points.

22   BY MR. LARSON:

23   Q.   What role, if any, did the upcoming Web

24 IV proceeding play in Pandora's decision to seek

25 direct licenses?

1   A.   Well, you know, any direct license we

2 do would be, you know, in a -- it would be

3 generally known by both sides, could potentially be

4 served as a benchmark in these processes. But our

5 initiative is to drive direct licensing as part of

6 a much broader strategy that involves a lot more

7 than just even domestic rates, but also our ability

8 to have non-DMCA compliance features and

9 functionality within -- within our service to

10 expanding international markets, you know, overseas

11 and other markets. There is no equivalent of these

12 statutory rates.

13   So if we want to expand outside of the

14 United States, which is a clearly stated goal of

15 the business, we would need to do direct deals and

16 work closely with label partners. So establishing

17 direct label relationships now and establishing

18 that partnership is important part of our long-term

19 strategy.

20   Q.   Were you involved personally in the

21 negotiation of the Merlin license?

22   A.   Yes.

23   Q.   Okay. And over what period of time was

24 that license or agreement negotiated?

25   A.   I think the initial fall of 2013,

1 November or so of 2013, maybe December through the

2 signing of August 2014.

3   Q.   Okay. And how would you generally

4 describe the nature of the negotiations, their

5 tenor?

6   A.   So they were constructive. I think

7 they -- there was definitely a lot of back and

8 forth. You know, both sides had very specific

9 ideas about the -- what they were wanting to get

10 out of the agreement, and certainly on the Merlin

11 side they had lots of constituents to represent,

12 and, you know, I'm assuming there was a lot of back

13 and forth even within Merlin to understand -- make

14 sure we got to terms that everybody was comfortable

15 with.

16   JUDGE STRICKLER: Were you the lead

17 negotiator?

18   MR. LARSON: Chris Harrison was

19 probably more the lead on the day-to-day basis, but

20 in terms of determining what terms we would accept

21 and not accept I was the lead from Pandora.

22   JUDGE STRICKLER: And by terms, you

23 mean rates and terms?

24   THE WITNESS: Rates and all the terms

25 of the agreement, yes.

1   BY MR. LARSON:

2   Q.   Was Pandora's ability to steer towards

3   Merlin a part of the negotiations?

4   A.   Yes. It was central to -- central to

5   the negotiations. Once we moved into a discussion

6   off of a single unitary rate, our ability to steer

7   was the way Pandora accomplished its economic

8   objectives under the deal. It also was the

9   mechanism with which Merlin accomplished its

10 objectives under the deal.

11   JUDGE STRICKLER: You said a moment ago

12 in response to one of my questions that the

13 steering agreements preceded the Merlin

14 negotiations, correct?

15   THE WITNESS: The steering experiments

16 did, yes.

17   JUDGE STRICKLER: Steering experiments.

18   So, did you go into negotiations with

19 the goal of having steering in the contract?

20   THE WITNESS: We went into the

21 negotiations having -- knowing that if we were able

22 to get pricing that was below what the statutory

23 rates were or how we were paying everybody else, we

24 could use steering to bring our overall costs down.

25 So if we had gotten just a single unitary rate, we

4216

1 would have then used steering to optimize our own

2 internal cost structure by steering to a

3 lower-priced offering. It became a term of the

4 deal only after they, you know, were looking for a

5 headline rate that was higher than the economic

6 rate.

7   JUDGE STRICKLER: Correct me if I'm

8 wrong, you said that originally you proposed the

9 .0011, you meaning Pandora, correct?

10   THE WITNESS: Yes.

11   JUDGE STRICKLER: So when you proposed

12 the .0011, it was without any steering, whatsoever?

13   THE WITNESS: Well, it was with the

14 understanding that our pitch was is if you give us

15 a lower rate, we will spin you more.

16   JUDGE STRICKLER: Let's go back to the

17 number itself. When you proposed the .0011 --

18   THE WITNESS: Yes.

19   JUDGE STRICKLER: -- did you say

20 everyone would introduce the steering term, as

21 well, or you just said -- in other words, you said,

22 here's the rate we propose and if Merlin had said

23 deal on that rate, it would have been no steering

24 in the agreement?

25   THE WITNESS: My recollection is the

1 pitch is this is the rate we propose. If you give

2 us this rate, we will spin you -- we will have an

3 economic incentive to play your music more so that

4 you will get a defined benefit from it. Meaning

5 greater exposure and promotion across Pandora's 80

6 million users.

7   JUDGE STRICKLER: Did you indicate you

8 were going to put that in the contract, or you were

9 just saying it will give us an economic incentive

10 to do so; we won't make it an obligation to do so?

11   THE WITNESS: I have to admit I don't

12 remember what was in the original proposal, and

13 whether there was a commitment or not to it. It

14 quickly became a commitment.

15   JUDGE STRICKLER: I guess my more

16 important point that I'm trying to pointe out about

17 is when you went into the negotiations right from

18 the get-go, did you want to have a steering term in

19 there? Not whether you had the economic benefit of

20 steering, but whether you wanted an economic --

21 whether you wanted a contractual term to dictate

22 steering?

23   THE WITNESS: I honestly don't

24 remember. If in the first pitch -- within the

25 second round of term sheets, it was a defined term

1   that we were committing to. I don't remember,

2   honestly, if it was an actual in our initial term

3   sheet whether that was a commitment or not, I would

4   have to say.

5   JUDGE STRICKLER: Thank you.

6   BY MR. LARSON:

7   Q.   Mr. Herring, shifting gears just

8   slightly, have you had a chance to review the

9   public version of Mr. Lexton's written rebuttal

10 testimony?

11   A.   Yes.

12   Q.   Okay. And who is Mr. Lexton?

13   A.   He is in charge of business affairs and

14 the lead negotiator for Merlin.

15   Q.   Now, Mr. Lexton testifies that one of

16 Merlin's objectives in its negotiations with

17 Pandora was, quote, "to try to obtain as much value

18 as it could for its members that Pandora otherwise

19 would not provide."

20   Is that consistent with your

21 understanding of what Merlin was seeking in the

22 negotiations?

23   A.   Yes.

24   Q.   Okay. And have you had the chance to

25 review Mr. Van Arman written rebuttal testimony?

1   A.   Yes.

2   Q.   And Mr. Van Arman, has his company

3 opted into the Merlin deal?

4   A.   Yes.

5   Q.   And Mr. Van Arman testifies that

6 Merlin, quote, "saw the appeal of gaining a first

7 mover or direct license advantage, particularly in

8 an environment where independent record companies

9 are typically not afforded the first opportunity to

10 take advantage of such a term."

11   Is that consistent with your

12 understanding of what Merlin was seeking in the

13 negotiations?

14   A.   Yes, it is.

15   Q.   And just one more, do you understand

16 that Beggars Group has opted into the Merlin

17 agreement?

18   A.   Yes.

19   Q.   So Mr. Wheeler of Beggars Group claims

20 in his rebuttal testimony that the Merlin agreement

21 is not the result of free market negotiations; but,

22 rather, the result of an opportunity to experiment

23 with direct licensing under the statutory rates.

24   Do you agree with that statement?

25   A.   No.

4220

1   Q.   Why not?

2   A.   Nothing in this agreement feels like an

3 experiment. It was an agreement that involved not

4 some small portion of their music or one or two

5 artists, but their entire catalog; a significant

6 amount of time, a two-year time frame with two

7 additional years tapped on to that. It involved,

8 you know, significant economic terms and also

9 promotional benefits in terms of additional

10 exposure on our platform. You know, it felt like

11 an arm's length negotiation for -- and a real

12 agreement to Pandora and certainly to Merlin, at

13 least the best we could tell. It certainly didn't

14 feel like any kind of experiment.

15   BY MR. LARSON:

16   Q.   Mr. Wheeler's quote and --

17   JUDGE FEDER: Excuse me, Counsel.

18   MR. LARSON: Yes.

19   JUDGE FEDER: You said two years taxed

20 on. Is that an option or has it been definitively

21 been extended to be an additional two years?

22   THE WITNESS: You know, there's -- each

23 year is an option. The first year is at Merlin's

24 option and the second year is at mutual option. We

25 both need to agree.

4221

1   JUDGE FEDER: And I don't know if this

2   gets into restricted information, let me know if it

3   does, but how many of the indie labels have

4   actually opted into the Merlin agreement?

5   THE WITNESS: So there's about 15,000

6   labels of which about a third of which are

7   currently in our system. So some of these labels

8   have one artist. These are lots of very small --

9   JUDGE FEDER: So a third just gross

10 numbers or a third of repertoire?

11   THE WITNESS: No. A third in terms of

12 gross numbers. I think it's -- it's -- I don't

13 know the exact total size of those 15,000. My

14 guess is that it's, you know, well north of 50

15 percent of the repertoire. The largest labels are

16 the ones that have opted in.

17   JUDGE FEDER: Thank you.

18   BY MR. LARSON:

19 Q.   Why don't we turn now to the second

20 slide of your --

21   JUDGE STRICKLER: Just before you do

22 that, since you talked about who opted in and who

23 did not opt in, the structure of the contract --

24 this may have come up previously and I don't recall

25 the answer.

4222

1   Did a late Merlin label have to

2   affirmatively opt in or affirmatively have to opt

3   out?

4   THE WITNESS: So it's my understanding

5   that the answer is both situations existed. That

6   there is two different levels of memberships or

7   types of members within Merlin, and there's a

8   population of labels where Merlin can negotiate on

9   behalf of those labels and those labels have to opt

10 out if they don't want to accept the terms. And of

11 that population, it's our understanding that

12 greater than 90 percent of those labels did not opt

13 out. And that's the labels we talked -- you know,

14 we'll talk about. They're the larger labels that

15 we've already brought up are in that sort of core

16 group. Then there's a much larger group of smaller

17 labels that aren't automatically opted in but can

18 opt in voluntarily later if they choose to do so.

19   BY MR. LARSON:

20   Q.   I just want to clarify one thing you

21 said in response to Judge Feder's question. First,

22 you mentioned 15,000 labels in your answer.

23   Are those 15,000 labels who are, in

24 fact, now covered by the Merlin license?

25   A.   Yes.

1   Q.   Okay. And then I think you said a

2 third of those are in your system or something to

3 that effect?

4   A.   Yes.

5   Q.   Can you explain what you mean by that?

6   A.   So if in -- a lot of this music isn't

7 already on Pandora. Pandora, because we're not an

8 on-demand service we don't have to have every song

9 that exists. You will hear other on-demand --

10 you'll hear on-demand services claim to have 30

11 million or 35 million songs. You know, we probably

12 have around 2 million, maybe something north of 2

13 million songs on our database that we use. We like

14 to say we have the 2 million songs that matter,

15 that people want to hear. It doesn't mean that

16 somebody doesn't want to hear song number 15

17 million. It's just economically we don't need that

18 to play a lean-back service.

19   In this context, we are ingesting a lot

20 of music that we hadn't previously ingested because

21 we're only focused on the 2 million. But as a --

22 as part of our work with Merlin, we've been

23 ingesting a lot of music we previously hadn't

24 ingested and some labels that we previously hadn't

25 worked with.

4224

1   JUDGE STRICKLER: So 15,000 labels

2   opted into the contract or were automatically opted

3   in, as far as you know?

4   THE WITNESS: That's my understanding.

5   JUDGE STRICKLER: How many either opted

6   out or otherwise are not in?

7   THE WITNESS: I don't know the answer

8   to that question. I don't know how many is in the

9   greater universe. I think it's like 20,000, but I

10 don't --

11   JUDGE STRICKLER: You think 20,000 is

12 the total universe or --

13   THE WITNESS: Total universe, yes.

14   JUDGE STRICKLER: You think 15,000 out

15 of 20,000 opted in?

16   THE WITNESS: That's my understanding.

17   BY MR. LARSON:

18   Q.   Let's turn to the next slide of your

19 deck, if we could, Mr. Herring. And because some

20 of this material is restricted, I'll ask you not to

21 state the numbers out loud, if you can, if you're

22 capable of doing it that way.

23   Does this slide reflect the main

24 financial terms to which the parties agreed?

25   A.   It does.

1   Q.   All right. And can you just walk us

2 through those basic terms?

3   A.   So the royalty that we pay is a

4 greater-of structure between percent of revenue of

5 a prorated Merlin share -- prorated Merlin share of

6 our percent of revenue or a headline per-play rate

7 that has various discounts that can be applied to

8 it. One rate for advertising supported service and

9 another rate for subscription service.

10   Q.   And what are those discounts, if you

11 would?

12   A.   So we don't pay additional fees if we

13 steer member Merlin tracks up to about

14 12-and-a-half percent above their natural

15 performance rate. If we steer about that, we are

16 paying the sort of effective rate of 12-and-a-half

17 percent.

18   MR. KLAUS: Your Honor, I believe this

19 is -- I believe this is confidential information,

20 the percentages that are being discussed here in

21 terms of the spinning. I think that's been

22 designated as confidential and restricted by the

23 order.

24   MR. LARSON: Well -- so you're -- on

25 Merlin's behalf, you're making the objection?

4226

1   MR. KLAUS: No, we're not -- we're

2   making -- this has been designated by restricted

3   and restricted by at least one party who's

4   submitted something to the proceeding. I'm not

5   sure that Pandora can -- they're not -- they're not

6   here to say anything. I'm not sure that Pandora

7   can -- it's appropriate for it to waive the

8   restricted information of someone else who's

9   designated as well.

10   MR. LARSON: We're happy to go to

11   restricted session. We thought we could do it at

12   this level and stay on the public record, but to be

13   safe we can go to restricted.

14   CHIEF JUDGE BARNETT: Are you going to

15   have additional restricted questions?

16   MR. LARSON: The next couple of slides

17   I think will be.

18   CHIEF JUDGE BARNETT: Okay. Ladies and

19   gentlemen, if you are in the hearing room and you

20   have not signed a nondisclosure certificate, please

21   wait outside a couple of minutes.

22   (THIS ENDS PUBLIC SESSION)

23   (RESTRICTED SESSION BOUND SEPARATELY)

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1   (THIS BEGINS PUBLIC SESSION)

2   STEPHAN D. MCBRIDE,

3   being first duly sworn, to tell the truth, the

4   whole truth and nothing but the truth, testified as

5   follows:

6   MR. MARKS: Good morning, Your Honors.

7   We've prepared some demonstratives that we'll be

8   using during Dr. McBride's direct examination. We

9   have them on the screen and I believe you also have

10   been given copies of printouts, so whatever you

11   find more convenient. May I proceed?

12   CHIEF JUDGE BARNETT: Yes, please.

13   DIRECT EXAMINATION BY COUNSEL FOR SOUNDEXCHANGE

14   BY MR. MARKS:

15   Q.   Dr. McBride, will you please state your

16   full name for the record.

17   A.   Stephan Douglas McBride.

18   Q.   Where do you work?

19   A.   Pandora.

20   Q.   What is your job title?

21   A.   Senior scientist, economics.

22   Q.   How long have you worked for Pandora?

23   A.   Just over a year.

24   Q.   Would you please identify for the

25   Judges any undergraduate and graduate degrees that

4325

1   you have.

2   A.   Yes. I hold a Bachelor of Arts Honors

3   in economics from Simon Fraser University in

4   Canada. I hold a Master of Arts in economics from

5   Queen's University also in Canada. I hold a

6   Masters of Study in Law from Yale Law School and I

7   hold a doctor in economics from Stanford

8   University.

9   Q.   And do you have any peer-reviewed

10   publications in scholarly journals?

11   A.   I do.

12   Q.   Before joining Pandora, what type of

13   work did you do?

14   A.   I worked as a professional economist.

15   Q.   Where did you do that?

16   A.   For the six previous years, I worked at

17   Analysis Group, an economic consulting firm, where

18   -- for clients, I undertook numerous analyses,

19   economic analyses, where I designed and executed

20   and analyzed numerous analyses.

21   Q.   What type of work do you do at Pandora

22   now?

23   A.   Similar work. I am tasked with

24   designing, executing and analyzing analyses,

25   including experimental analyses.

1   Q.   Dr. McBride, did you prepare written

2 direct testimony in connection with this

3 proceeding?

4   A.   Yes, I did.

5   Q.   I place before you in the white binder

6 on your desk, a document that has been marked for

7 identification as Pandora Exhibit 5020.

8   A.   Okay.

9   Q.   Do you recognize this document?

10   A.   I do.

11   Q.   What is it?

12   A.   It's the testimony I submitted in this

13 matter.

14   Q.   If you could please turn to the last

15 page before the appendices.

16   A.   I'm there.

17   Q.   Is that your signature?

18   A.   It is.

19   Q.   And are the attached figures, tables

20 and appendices materials that you referenced in

21 your written testimony?

22   A.   Yes.

23   MR. MARKS: I offer Pandora Exhibit

24 5020 into evidence.

25   MR. CHOUDHURY: No objection.

4327

1   CHIEF JUDGE BARNETT: 5020 is admitted.

2   (Pandora Exhibit 5020 was admitted into

3   evidence.)

4   BY MR. MARKS:

5   Q.   Dr. McBride, do you work with any

6   particular group or team at Pandora?

7   A.   I do.

8   Q.   What is that team called?

9   A.   I work within the science team.   It is

10 a group of now around 20 researchers who are tasked

11 with designing, executing and analyzing research,

12 primarily using controlled experiments to

13 understand the relationships and the causal

14 relationships between features and aspects of our

15 service.

16   Q.   And your written direct testimony uses

17 the term gold standard in reference to Pandora's

18 experimental research.

19   Could you please explain what the gold

20 standard requires?

21   A.   Yes. The gold standard requires three

22 things: Randomized, controlled and blind.

23   Q.   And what does it mean for an experiment

24 to be randomized and why is that important to your

25 work?

1   A.   An experiment is where the researcher

2   modifies the experience of users and -- with

3   randomized, exactly who gets that modified

4   experience, listening, a modified experience on

5   Pandora's service is randomized so we are able to

6   balance all of the unobservable distinctions

7   between people on our service so that half are in a

8   treatment group and half are not in a treatment

9   group.

10   Q.   What does it mean for an experiment to

11 be controlled and why is that important to your

12 work?

13   A.   Controlled means you randomize some

14 into treatment and some -- those not into

15 treatment, into controlled, and that allows you to

16 compare for randomly selected or assigned

17 individuals, the experience between those who have

18 a slightly modified experience entirely caused by

19 the researcher, and those in the control who have

20 no difference, and that allows you to compare

21 treatment to control, so that you have a

22 counterfactual estimate of what would otherwise

23 have occurred absent only the treatment introduced

24 by the researcher.

25   Q.   What does it mean for an experiment to

1 be blind and why is that important to you?

2   A.   The final prong, blind, means that any

3 individual who is in the experiment is unaware of

4 whether or not they are in a treatment group or

5 control. It's important because if individuals are

6 aware that they are in an experiment and know which

7 arm they are on, they can modify their behavior in

8 ways that would hamper the inference, the causal

9 inference that gold standard experimental research

10 allows.

11   Q.   Are you familiar with Pandora's AB

12 framework for conducting experiments?

13   A.   Yes, I am.

14   Q.   What is the AB framework?

15   A.   The AB framework is Pandora's internal

16 name for the architecture that modifies our base

17 code, that allows us to produce gold standard

18 research. The randomized controlled is blind by

19 randomly assigning some of our listeners to a

20 treatment group that have a modified listening

21 experiencing and the controlled group that allows

22 the counterfactual comparison for causal analysis.

23   Q.   Have you conducted any sets of

24 experiments in connection with this proceeding?

25   A.   Yes, I have.

1   Q.   So could you just briefly identify what

2 sets of experiments that you conducted in

3 connection with this proceeding?

4   A.   Yes. Two sets of experiments. What I

5 refer to as the steering experiments and also the

6 second set are what I refer to as the music sales

7 experiments.

8   Q.   Let's start with the steering

9 experiments.

10   What questions were you attempting to

11 answer with that research?

12   A.   That research tried to analyze the

13 effect of changing or modifying the spins of

14 listeners in treatment group based on the ownership

15 of those sound recordings.

16   Q.   Did Professor Shapiro have a role in

17 designing the steering experiments?

18   A.   Yes, he did.

19   Q.   What was Professor Shapiro's role?

20   A.   Professor Shapiro provided us detailed

21 instructions on the implementation and design of

22 this set of experiments.

23   Q.   And what was your role?

24   A.   My role was to take those instructions

25 and implement them in the AB framework and then

1 report back the requested results to Professor

2 Shapiro.

3   Q.   Go to the next slide.

4   If you could please describe for the

5 judges in general terms what Dr. Shapiro asked you

6 to do.

7   A.   For design, he asked that we use AB

8 framework so that we use Pandora's normal

9 experimental procedures. For the experiment and

10 manipulation, the researcher modified experience,

11 what we did was we changed the share of spins

12 available for an outcome that would be available to

13 the listeners in the treatment groups based on the

14 ownership of those sound recordings and then get

15 four specific requests in deflection for steering,

16 changing the spin share.

17   He asked for negative 30 percent,

18 negative 15 percent, plus 15 and plus 30, so four

19 treatment objectives for the spin share deflection.

20   JUDGE STRICKLER: Do you know how

21 Dr. Shapiro selected the four, negative -- minus

22 15, minus 30 and plus 15 and plus 30?

23   THE WITNESS: I don't, Your Honor.

24   JUDGE STRICKLER: I guess we will have

25 to ask him.

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 1              THE WITNESS:   And then he applied -- he

 2   requested at the directions -- Professor Shapiro

 3   requested that those four treatments or steering

 4   targets be applied to the three major ownership

 5   groups, UMG, which -- Universal, Sony and then

 6   Warner Music Group or Warner.

 7              BY MR. MARKS:

 8       Q.      And what was the time frame of the

 9   steering experiments?

10       A.      They ran from June 4, 2014 through

11   September 3, 2014.

12       Q.      And are additional details of your

13   methodology set forth in your written direct

14   testimony?

15       A.      Yes, they are.

16       Q.      Turn to the next slide.

17              Is this slide, Figure 1, from your

18   written direct testimony?

19       A.      Yes, it is.

20       Q.      What does this show?

21       A.      This figure shows the difference

22   between the actual spin share in each of the 12

23   treatment groups versus control.  So the previous

24   slide mentioned that Professor Shapiro directed us

25   to modify the spin share by plus 30, plus 15, which
```

4333

1   are the values -- I'm sorry, Your Honor, the left Y

2   axis label is not showing there but the left -- the

3   Y axis is the change in spins by music groups, so

4   the steering quantity in percentage terms or

5   percentage point terms, and then -- so the

6   30 percentage terms is plus 30 percent, plus 15

7   percent, minus 15 and minus 30.

8   What this shows is that our engineers

9   were able to modify the actual spin distribution of

10   listeners in those treatment groups to closely

11   approximate the requested target values that

12   Professor Shapiro provided.

13   Q.   It looks like there is an aberrational

14   point in the middle of August in Figure 1.

15   What is the cause of that?

16   A.   There was a brief malfunction in the AB

17   framework which prevented the spin shares closely

18   matching the actual requested targeted shares.

19   Q.   And in your written direct testimony,

20   do you present the results both including that week

21   and then separately excluding that week?

22   A.   Yes, I do.

23   Q.   What is the metric that you used to

24   measure the effect on the listening experience?

25   A.   Average hours per listeners.

1   Q.   Why did you use that metric?

2   A.   It is Pandora's standard measure of

3 listening behavior on the service for all business

4 -- for business purposes.

5   Q.   And what do the results of the steering

6 experiments show?

7   MR. POMERANTZ: Your Honor, I'm sorry,

8 I had a request from our client. If this is

9 public, we would just want to let the public come

10 in.

11   MR. MARKS: I apologize. I didn't

12 realize we were in closed session. The entire

13 direct examine will be public, I'm sorry.

14   JUDGE STRICKLER: Shall we start all

15 over again?

16   MR. POMERANTZ: No, we object to that.

17   THE WITNESS: This particular table is

18 restricted in my written direct testimony.

19   MR. MARKS: That's fine. It's fine to

20 disclose. They can come in.

21   CHIEF JUDGE BARNETT: It's noon. We're

22 going to take our noon break. Thank you.

23   You provided us a convenient breaking

24 point. We will drop back ten.

25   (A short recess was taken.)

4335

1   CHIEF JUDGE BARNETT: Please be seated.

2   Mr. Marks, shall we have another run at

3 it?

4   MR. MARKS: Please, Your Honor.

5   And I would just want to note for the

6 record -- I realize that we were in closed session

7 for the portion of Dr. McBride's testimony that was

8 conducted before lunch. That does not need to be

9 restricted.

10   And so for purposes of the final

11 transcript, that can be part of the public record.

12   CHIEF JUDGE BARNETT: Great. Thank

13 you.

14   And for those of you who missed it, too

15 bad.

16   Go ahead, Mr. Marks.

17   BY MR. MARKS:

18   Q.   Dr. McBride, you'll recall that right

19 before the break we were talking about the steering

20 experiments and just about to discuss what the

21 results of the steering experiments were.

22   Do you recall that?

23   A.   There was quite a cliffhanger. Yes.

24   So behind the judges are the primary

25 findings. The primary -- the first primary finding

1   was that --

2   Q.   Let me just stop you before you get

3   into it.

4   Is this slide a simplified version of

5   Table 1 from your written direct testimony?

6   A.   That's correct. Yes.

7   Q.   Okay. And does this report the results

8   of the steering experiments?

9   A.   Yes, it does.

10   Q.   And what did you fund?

11   A.   We found that we were able to steer

12   either plus or minus 15 percent without

13   statistically significant impact on listening. No

14   listener effect.

15   We found in two instances a negative 30

16   percent Universal and a plus 30 for Sony. Small --

17   small average effect over the period on listening

18   retention.

19   Q.   And are you aware that Dr. Rubinfeld

20   critiques certain aspects of your written direct

21   testimony in his written rebuttal testimony?

22   A.   I am aware of that.

23   Q.   And what is your response to his

24   contention that the loss of listenership tends to

25   grow as the steering experiments continue and his

1   suggestion that the average effects you observed

2   may understate the loss of listenership over a

3   longer period?

4   A.   So this exhibit here is Professor

5   Rubinfeld's own Exhibit 13-A. I have added the

6   dotted line. And these represent data that I

7   included in my written direct testimony. He has

8   added the black simple average.

9   And my interpretation of all of these

10 data, and from my experience in reviewing these

11 data, is that there is no trend or any evidence of

12 declining listenership over the period of the

13 experiment after the midpoint. So I would -- I

14 would disagree with that point.

15   And that -- so logically I have

16 additional problems with this. First, he presents

17 a simple average, which is an average of an

18 average, which is not an appropriate method when

19 you have different portions of the sample in each

20 of the groups.

21   And then, finally, he doesn't disclose

22 or acknowledge on this exhibit that he's combining

23 numerous examples that were insignificant

24 statistically with significant results and not

25 reporting that.

4338

1   Q.   And do you think that's a correct

2 methodological approach?

3   A.   I find it irregular.

4   Q.   All right. So turning back to the sets

5 of experiments that you mentioned, there's another

6 set of experiments that you conducted; is that

7 right?

8   A.   That is correct.

9   Q.   And what were the music sales

10 experiments designed to test?

11   A.   The purpose of the music sales

12 experiments was to test Pandora's causal impact on

13 whether Pandora promotes music sales or substitutes

14 for music sales on net.

15   Q.   And if you could -- how did you go

16 about answering that question?

17   A.   Yes. So in that experiment, the

18 manipulation imposed by the researcher, myself and

19 my colleagues, was to disable, prevent from playing

20 on Pandora, particular music.

21   We had two groups of experiments. We

22 had new music, which was music that had never

23 played on Pandora. So when it was about to start

24 playing for all of our listeners, we intercepted it

25 in the engineering code and randomized where it was

1 available.

2   We had a second set of experiments,

3 which I refer to as the catalog music sales

4 experiments. And these included music that had

5 been long available on Pandora and numerous other

6 places, in some case years and decades.

7   And so in that experiment, again, we

8 took that music and randomly prevented our -- some

9 of our listeners in the treatment group not to be

10 able to access that music.

11   So then we have a separation between

12 the treated group -- as we defined it, for

13 simplicity -- it doesn't change the results, but we

14 define treatment as having the music on Pandora and

15 the control is not having the music on Pandora.

16   So we had a causal -- we had a

17 separation produced by this experimental

18 manipulation.

19   Q.   And why did you distinguish between new

20 releases or new music and catalog music?

21   A.   We thought there were distinctions in

22 expected sales of new music versus catalog and also

23 potential differences in the general availability,

24 marketing of new music versus catalog.

25   Q.   How does Pandora obtain geographic

4340

1 information about the location of its listeners?

2   A.   Yes. Upon registration, our U.S.

3 listeners are required to provide us a ZIP code.

4 And that has been case for at least seven years.

5 Those listeners, upon discretion, sometimes at our

6 prompt, are encouraged to update their ZIP code as

7 well.

8   Q.   And do, in fact, Pandora listeners

9 update their ZIP codes from time to time?

10   A.   Yes, they do.

11   Q.   Why did you perform the analysis by

12 region?

13   A.   Yes. So with the steering experiments,

14 we had individual level outcome. We had hours of

15 listening for every listener on Pandora.

16   With the music sales experiment, the

17 equivalent would be we would need individual

18 listeners' purchase data. And at Pandora we -- we

19 aren't -- we do not have access to individual

20 listener purchase data.

21   As a consequence, we had to go find a

22 source that had the most granular music sales data

23 that we could find.

24   Q.   And where did Pandora obtain the weekly

25 sales data that it used?

4341

1   A.   We used Nielsen SoundScan weekly data.

2   Q.   Why did you use Nielsen SoundScan?

3   A.   We understood in discussion that this

4   was perceived to be the best, most complete,

5   comprehensive data available at a granular level of

6   music sales for physical albums and digital

7   downloads in the United States.

8   Q.   And did the Nielsen data that you used

9   track both physical CD sales and digital downloads?

10   A.   That's correct.

11   Q.   And what is the geographical unit by

12   which Nielsen tracks sales?

13   A.   The most granular region that Nielsen

14   will make their data available on music purchases

15   is called a designated market area, which in my --

16   which is also sometimes referred to as a DMA.

17   There are -- in our study, we had 228 of these.

18   Q.   And were the experiments done at the

19   level of individual tracks, albums or some

20   combination?

21   A.   For the new music experiments, we

22   manipulated the availability of an album. So all

23   tracks on an album were either available to a

24   listener to play at our normal Pandora algorithm or

25   unavailable, and none of the tracks on that album

 1 would be available.

 2   For catalog music sales experiment, we

 3 used songs. We found that albums of catalog music,

 4 because of golden his, greatest his, and remastered

 5 versions, sales of catalog music were too

 6 fragmented across albums to be able to analyze at

 7 the album level.

 8   Q.   Does your written direct testimony

 9 describe in greater detail how you determined which

10 new music and which catalog music to turn off in

11 your experiment?

12   A.   Yes, it does.

13   Q.   Let me --

14   A.   Sorry to --

15   Q.   There we go.

16   If you could just explain what this

17 slide reflects.

18   A.   Yes. This is a map of the United

19 States. All of the internal boundaries represent

20 the boundaries of Nielsen DMAs -- sorry --

21 designated market areas. So all of those internal

22 boundaries are each of the 228 designated market

23 areas.

24   The dark color -- I'm sorry.

25   The dark color and light color were

4343

1 randomized. This is the actual availability of one

2 of the experiments included in our research. The

3 dark green are the randomly assigned areas where

4 the music would be available for one particular

5 experiment. And all of the light green areas were

6 the randomly assigned areas where the music was not

7 available.

8   So at a high level, we are comparing

9 the sales in the areas that were randomly

10 available -- sorry -- where the music was randomly

11 available, the total sales in the green areas,

12 compared to the sales in the light green areas.

13   And notably, our experimental design

14 had separate randomization for all of our

15 experiments. In outcome we had over 1,200 of these

16 music availability experiments to explore our

17 causal impact on music sales.

18   And so, for any of the areas that are

19 dark green here, on average they would be light

20 green half the time and dark green so that each of

21 these were randomized so that we capture and

22 control for any regional differences in, for

23 example, genre preference.

24   Q.   And is there -- do you have any reason

25 to believe that the starting week that you used for

4344

1   the music sales experiments was exceptional in some

2   way?

3   A.   I have no reason for that, no.

4   Q.   And do you have any reason to believe

5   that the ending week was exceptional in some way?

6   A.   No. No, I don't. I would also

7   actually note that, because we ran so many

8   experiments, we also had staggered start periods

9   and staggered end periods so that they weren't

10   entirely overlapping.

11   So that also was able to address any

12   concerns that could be had regarding exceptional

13   natures, the periods that we ran the experiments.

14   Q.   And are the additional details of your

15   methodology for the music sales experiments set

16   forth in your written direct testimony?

17   A.   Yes, they are.

18   Q.   Did the music sales experiments reflect

19   an average promotional effect?

20   A.   Yes.

21   Q.   And is that what's shown on this slide?

22   A.   This slide here -- I apologize. It

23   says Table 4. This is actually Table 3 from my

24   written direct testimony.

25   And what this shows is that, on

4345

1   average, music being available on Pandora, Pandora

2   causes that music -- or sales of that music to rise

3   by 2.3 percent on average for new music. And

4   because the music is available on Pandora, we cause

5   catalog music sales on average to be 2.66 percent

6   higher.

7   The confidence interval, the values in

8   the second column, show the range where the -- the

9   range by which we can be very confident the true

10   causal estimate of how much Pandora in this case

11   promotes music sales-wise. Both of these are

12   highly statistically significant.

13   Q.   And did you also calculate the results

14   separately by label type?

15   A.   Yes, we did. This figure here presents

16   a simplified version of Table 4 in my written

17   direct testimony.

18   Starting with the first column -- oh, I

19   apologize, Your Honors. The -- some of the letters

20   are cut off. It says "New Music" -- it says "New

21   Music" in the top table.

22   So we find for new music -- when

23   looking by the ownership of the music that was

24   included in the experiments, we found that Pandora

25   causes music sales for music released on major

4346

1 labels to rise by a higher amount 2.82 percent, a

2 very highly significant figure.

3   You'll note that I did not bold the

4 estimate -- the positive estimate of 0.62 for new

5 music on other labels. One of the -- that estimate

6 wasn't statistically significant.

7   For catalog music sales, when you

8 separate by the ownership of the music, we again

9 see extremely -- or positive promotional estimates

10 that Pandora causes increase in these sales at very

11 high levels of statistical significance.

12   So we are confident that these are

13 promotional effects.

14   Q.   Did you find any evidence that the

15 extent of exposure on Pandora for a given sound

16 recording impacts the size of the promotional

17 effect?

18   A.   Yes, we did find that.

19   And this next figure will need

20 explanation. Broadly it's Figure 3(a) in my

21 written direct testimony. It includes three

22 panels.

23   Focusing first on the left panel, these

24 are estimated promotional effects for new music for

25 different subsets of the experiments.

4347

1   For new music we had 814 different

2   music albums that we were able to manipulate the

3   availability and then were able to assess the

4   sales.

5   And what these broadly show is that, as

6   you look at areas -- or for experiments by which

7   Pandora represents more exposure, then we see a

8   higher promotional effect.

9   And so the scale along the X axis is

10 it's a threshold that says, you know, there are at

11 least one spin per sale.

12   At a high level, when you think about

13 it, if a particular song has 10,000 spins on

14 Pandora, that could be a lot or a little exposure.

15   So if we find that that particular

16 sound recording had two sales, 10,000 spins on

17 Pandora might represent substantial exposure.

18   Conversely, if that album or sound

19 recording had 50,000 sales, then I would see that

20 10,000 spins on Pandora is not substantial

21 exposure.

22   The way we thought about how much does

23 Pandora represent share of exposure is by the ratio

24 on the bottom, which is the ratio of spins on

25 Pandora for the music divided by sales that we

1   observed from Nielsen.   So one measure of relative

2   exposure.

3   And what we find is, as Pandora

4   represents more and more relative exposure, we see

5   higher promotional effects. So in the right panel,

6   you'll note that the first couple estimates,

7   because they're gray and they cover -- across the

8   zero dash line, it means they're not statistically

9   significant.

10   But when you look at the large share of

11 experiments that were new music released on other

12 labels, we actually observed extremely strong,

13 highly statistically significant promotional

14 effect.

15   And the last value on your right, left,

16 depending upon how you see it, we estimate a 25

17 percent net promotional effect of Pandora for the

18 subset of experiments where Pandora represents 200

19 spins per one sale.

20   Q.   And this slide is the promotional

21 impact by exposure for new music.

22   A.   Yes.

23   Q.   Did you also have a figure of

24 promotional impact by exposure for catalog music?

25   A.   Yes, we did. This figure that's now

1 shown as Figure 3(b) from my written direct

2 testimony. And the same pattern holds.

3   As you look at the subset of

4 experiments where Pandora represented a larger and

5 larger share of the exposure, how much the

6 listeners in that region were able to access or

7 experience that music, Pandora continuously, we

8 estimate, is a higher promotional effect on the

9 sales of that same music.

10   Q.   Are you aware that Dr. Blackburn has

11 critiqued your music sales experiments?

12   A.   Yes, I am.

13   Q.   Are you aware that Dr. Blackburn has

14 criticized you for not using data related to the

15 buy button on Pandora's Website to measure

16 promotional impact?

17   A.   Yes.

18   Q.   How do you respond to that criticism?

19   A.   My first response is it's observational

20 insight. It's correlation; it's not causation.

21 All of the results that I've presented today are

22 causal estimates. They come from an experiment.

23 Thinking about the buy button observational,

24 that -- that's simply correlation.

25   The second point is it presumes that

1 the only way a radio services would be able to

2 promote music sales is through a direct channel of

3 this button. I find that unconvincing, in part

4 because terrestrial radio does not have a buy

5 button, and my general sense is that the industry

6 accepts that terrestrial radio is promotional even

7 absent any form of direct channel for purchase.

8   And then finally, I will note that the

9 availability of the data for use of the buy button

10 on our service is not broadly available, in part

11 of -- because of privacy and security reasons for

12 our service and our listeners.

13   Q.   Did Dr. Blackburn assume that the buy

14 button data would be more available to you than

15 they are?

16   A.   That's correct.

17   Q.   And are you aware that Dr. Blackburn

18 has criticized you for excluding experiments with

19 zero sales from your analysis?

20   A.   Yes.

21   Q.   Does that criticism affect in any way

22 your catalog music sales experiments?

23   A.   No. All of the results that are

24 currently on the image from Figure 3(b) for the

25 catalog music sales experiments, none of those are

1 in any way affected by this criticism because all

2 of the music included in the catalog music sales

3 had sales. So that argument is simply not

4 applicable to all of these promotional estimates.

5   Q.   What other responses do you have to the

6 criticism by Dr. Blackburn that you should not have

7 excluded experiments with zero sales analysis?

8   A.   Most notably, he criticized this

9 research for excluding experiments for which the

10 vast majority have no data available. So --

11   Q.   Does that mean there are no sales?

12   A.   We don't know. No one is able to know

13 whether or not this music had sales. For the vast

14 majority of what he's criticizing, neither he nor I

15 have any access to data to say whether or not there

16 were sales and Pandora promoted them or there were

17 sales and Pandora suppressed them. It's simply

18 impossible as a researcher to know.

19   An additional reason that I would note

20 why I think it's a misplaced criticism is the

21 strong promotional estimates that we find for new

22 music where there are some experiments with zero

23 sales depends on 28.7 million units of sales. And

24 Professor -- or Dr. Blackburn is focusing on a

25 couple of cases where some of them had zero.

1   Even if they had some units of sales

2   and, for argument, if Pandora substituted for all

3   of them, it would not materially affect net

4   promotional effects that I show in my report.

5   Q.   For some of the experiments that

6   Dr. Blackburn criticizes you for excluding, were

7   there spins on Pandora?

8   A.   Right. Another thing that he -- there

9   were not. For seven of the experiments that he

10 criticizes us for excluding, the music that was

11 included in the experiments never played on our

12 service.

13   Of course we could not be promotional

14 for music that we did not use. So accordingly,

15 reasonably as researchers, we did not include that

16 in our analysis.

17   Q.   Are you aware that Dr. Blackburn has

18 criticized your experiments because of potential

19 inaccuracies in the data Pandora maintains about

20 the geographic location of its listeners?

21   A.   Yes.

22   Q.   How do you respond to that criticism?

23   A.   It makes a profound error regarding

24 normal interpretation of experimental methods.

25   Conceptually we're comparing the

4353

1 outcomes for the region that's treated to the

2 outcomes that the regions are controlled.

3   If you accept, as Professor Blackburn

4 suggests, that there is some inaccuracies in our

5 ZIP code data, what we're actually estimating the

6 promotional effect on is a smaller spread between

7 the treated group and the control.

8   So if anything, if you were to accept

9 his claim, the true promotional effect that I -- is

10 actually higher, is larger than I report in my

11 estimate. It's the very common finding in

12 experimental methods. It's called dilution or

13 watering down of a treatment effect.

14   And so the primary implication is in no

15 way to affect the validity of the results but

16 instead actually to suggest helpfully that the

17 promotional effect that we find is, in fact, higher

18 than number that I report in my testimony.

19   Q.   And are you aware that Dr. Blackburn

20 has singled out the 90210 area code -- excuse me --

21 ZIP code as having particular inaccuracies as a

22 result of Pandora users self-reporting that they

23 live in Beverly Hills, California?

24   A.   Yes.

25   Q.   How do you respond to Dr. Blackburn's

4354

1 criticism on the 90210 Zip code point?

2   A.   I have several thoughts, I think. The

3 first is this is a single region out of 228. And

4 so it is unlikely to materially affect the results.

5   Second, and I think importantly, the

6 experimental design of our research randomizes each

7 region, sometimes to treatment, to sometimes

8 control. So contrary to any assumption in this

9 material things, sometimes it could be driving

10 sales; sometimes it could not. It's simply not --

11 it's balanced because of the experimental design.

12   And then finally, to the previous

13 point, this is a -- this could be an example of

14 inaccuracies which suggest a spreading, the

15 difference between treatment and control, so that,

16 if you were to accept his argument, in fact, the

17 true promotional effect would be higher than I

18 report in my testimony.

19   MR. MARKS: No further questions, Your

20 Honor.

21   CROSS-EXAMINATION BY COUNSEL FOR SOUNDEXCHANGE

22   BY MR. CHOUDHURY:

23   Q.   Good afternoon, Dr. McBride. Good to

24 see you again.

25   A.   Thank you. Likewise.

1   Q.   As you know, I represent SoundExchange.

2   A.   Yes. I know that.

3   Q.   So first of all, just by way of

4 background, the two studies you report in your

5 testimony, you've been working on them since your

6 first day at Pandora, correct?

7   A.   Very close. One I started -- on my

8 first day I started thinking about. The other one,

9 my first week.

10   Q.   And when you interviewed for your

11 position at Pandora, you interviewed with Mr.

12 Harrison, right?

13   A.   That's correct.

14   Q.   And he's not in the science department

15 of Pandora, right?

16   A.   He is not.

17   Q.   He is in-house counsel at Pandora,

18 right?

19   A.   He is that. He is also vice president

20 of business affairs.

21   Q.   And looking back to your first day,

22 after you completed your human resource paperwork,

23 what was the first thing you did at Pandora?

24   A.   After that I met with my boss for an

25 orientation meeting.

4356

1   Q.   Right.

2   And that's Mr. Bieschke?

3   A.   Yes, it is.

4   Q.   And you discussed with him there the

5   music sales experiments, correct?

6   A.   That is correct.

7   Q.   And between the time you were hired by

8   Pandora and the time you submitted your written

9   direct testimony, is it correct that the only

10 studies or experiments you worked on were the two

11 sets of experiments in your testimony plus a study

12 on how ad load affects listener retention?

13   A.   That's not true.

14   Q.   Okay. What was the other study or

15 experiment?

16   A.   The other two were ad quality and the

17 effect of ad repetition on listening patterns. I

18 did not work on the ad load experiment.

19   Q.   And all of those were at the direction

20 of counsel, correct?

21   A.   That's not correct.

22   Q.   Which wasn't?

23   A.   The two that I added were not at the

24 direction of counsel.

25   Q.   Okay. And at the time you were deposed

4357

1   though, all of the studies or experiments you had

2   executed since coming to Pandora were at the

3   direction of counsel, correct?

4   A.   Sir, could you ask the question again?

5   Q.   Sure.

6   At the time you were deposed --

7   A.   Yes.

8   Q.   And as you might imagine, I'm harkening

9   back to our deposition.

10   A.   Yes.

11   Q.   At the time you were deposed, all of

12   the studies or experiments you had executed since

13   coming to Pandora were at the direction of counsel,

14   correct?

15   A.   I don't think exactly correct. The

16   only experiments I had run as of our deposition

17   were at the direction of counsel.

18   Q.   And that was counsel for this

19   litigation, right?

20   A.   Yes.

21   Q.   At the time I took your deposition,

22   it's true that you had no research to report that

23   was not at the direction of counsel, correct?

24   A.   That's correct.

25   JUDGE STRICKLER: Just so it's clear,

1 when you say you had no research to report that

2 wasn't at the direction of counsel, in terms of

3 topic or in terms of results?

4   THE WITNESS: In terms of results. So

5 the two studies that I reminded counsel about were

6 exploratory studies. And when I became more

7 involved in executing these experiments, those were

8 performed and finished by colleagues on the science

9 team.

10   JUDGE STRICKLER: Was counsel involved

11 in managing the results?

12   THE WITNESS: No.

13   JUDGE STRICKLER: That was my question.

14   THE WITNESS: Sorry, Your Honor.

15   BY MR. CHOUDHURY:

16   Q.   I'd like to begin by discussing the

17 music sales experiments.

18   Your assignment there was to test

19 whether performances of sound recordings on Pandora

20 have a positive or negative impact on sales of the

21 sound recordings, correct?

22   A.   That's correct.

23   Q.   And you never worked in the music

24 industry, right?

25   A.   I have not.

1   Q.   And when you worked at Analysis Group,

2 none of your projects there involved the music

3 industry, correct?

4   A.   That's my recollection, yes.

5   Q.   You never published an academic paper

6 on the music industry, correct?

7   A.   That's correct.

8   Q.   You never published an analysis of

9 promotion or substitution, right?

10   A.   That's correct.

11   Q.   And besides this experiment, you've

12 never studied the reason that consumers purchase

13 music, correct?

14   A.   That's correct.

15   Q.   And besides this experiment, you've not

16 studied the reasons for increases or decreases in

17 sales across the music industry, right?

18   A.   That's correct.

19   Q.   And that includes regional variations,

20 correct?

21   A.   It would, yes.

22   Q.   And that includes seasonal variations,

23 too, right?

24   A.   I agree.

25   Q.   Okay. So before we get into the

4360

1   experiments themselves, I just want to understand

2   the scope of the testimony you're presenting to the

3   judges.

4   So your testimony isn't studying

5   whether Pandora is a substitute or promotional for

6   revenue from interactive streaming services, right?

7   A.   I agree.

8   Q.   And you agree that your experiments

9   don't say anything about how promotion interactive

10   services are, right?

11   A.   I agree with that.

12   Q.   Or terrestrial radio?

13   A.   I agree. And my studies weren't

14   designed to test any of those.

15   Q.   Or simulcasters?

16   A.   I agree.

17   Q.   Or any other Webcasters besides

18   Pandora, correct?

19   A.   I agree.

20   Q.   And you'd also agree that your

21   experiments don't say anything about how

22   promotional Pandora is as compared to an

23   interactive service, right?

24   A.   Studies don't test that. I agree.

25   Q.   Or as compared to terrestrial radio,

4361

1 right?

2   A.   I agree with that.

3   Q.   Or as compared to simulcasters?

4   A.   I agree.

5   Q.   Or as compared to any other Webcaster,

6 right?

7   A.   I agree.

8   Q.   And you'd also agree that your

9 experiments don't say anything about whether

10 Pandora promotes subscription revenue to any other

11 digital service, right?

12   A.   We didn't have those data. So

13 certainly we weren't able the study that, no.

14   Q.   Or to concert revenue to the music

15 industry, correct?

16   A.   I'm working on it.

17   Q.   But that's not in your testimony.

18   A.   It is not.

19   Q.   And, in fact, your experiments don't

20 say anything about any revenue source besides sales

21 of CDs and downloads, right?

22   A.   And the direct royalties that we pay

23 for the music that we're playing in the

24 experiments, yes.

25   Q.   Sure.

4362

1   So you tested the royalties in your

2   experiments?

3   A.   The royalties certainly went down when

4   we turned the music off.

5   Q.   I see.

6   So that's what you mean when you say

7   you tested the royalties?

8   A.   I didn't mean to suggest I tested the

9   royalties.

10   Q.   Okay. Now, you acknowledge in Footnote

11 27 of your testimony that to draw a broader

12 interpretation of Pandora's effect on aggregate

13 sales -- oh, and, please, by all means, take a

14 look. This is on Page 17.

15   A.   I'm good.

16   Q.   Okay. So you suggest that to draw a

17 broader interpretation of Pandora's effect on

18 aggregate sales of manipulated music, you would

19 need to assume that sales of a specific sound

20 recording are not affected by manipulation of other

21 music in the experiment, correct?

22   A.   That is what it says, yes.

23   Q.   And you did nothing to investigate

24 whether that assumption was correct, right?

25   A.   I did not.

1   Q.   Okay. And, in fact -- well, did anyone

2 -- did counsel tell you that you couldn't

3 investigate that assumption?

4   A.   They did not.

5   Q.   Okay. So you were free to, correct?

6   A.   Yes.

7   Q.   But you chose not to.

8   A.   I don't know if it's feasible, but I --

9 I did not do that.

10   Q.   And that would mean that your

11 experiment doesn't tell us anything about whether

12 Pandora increases total music sales for the

13 industry, right?

14   A.   I don't fully agree with that

15 interpretation. The study results provide insights

16 on that broader interpretation. This is a

17 necessary assumption for the exact numbers to

18 apply.

19   Q.   Well, Dr. McBride, this isn't the first

20 time you've been asked that question, is it?

21   A.   It's not.

22   Q.   Okay. So you, in fact, provided

23 deposition testimony in the BMI rate setting

24 proceeding, correct?

25   A.   I did.

1   Q.   And you -- in that proceeding, we're

2   talking about these same music sales experiments,

3   correct?

4   A.   That's correct.

5   Q.   So I'd ask you to turn to Tab 3. If

6   you can turn to Page 14 of that document.

7   JUDGE STRICKLER: That'd big Page 14?

8   MR. CHOUDHURY: It'd be big Page 14.

9   BY MR. CHOUDHURY:

10   Q.   If you could look at the --

11   MR. MARKS: I just want the record to

12   be clear. Counsel identified -- he referred to

13   deposition testimony. Tab 3 is not deposition

14   testimony.

15   MR. CHOUDHURY: Thank you for that

16   correction.

17   BY MR. CHOUDHURY:

18   Q.   In fact, this is your trial testimony

19   from the BMI hearing; isn't that correct?

20   A.   You'll have to give my a second. Yes.

21   It appears to be.

22   Q.   Okay. So if you look at the -- on

23   page -- big Page 14, you see Page 1922, correct?

24   A.   Yes, I do.

25   Q.   And you see -- you're -- and this is --

1 this is your testimony, correct?

2   CHIEF JUDGE BARNETT: Are you asking

3 this --

4   MR. CHOUDHURY: I'm just using it

5 for --

6   CHIEF JUDGE BARNETT: To refresh

7 recollection?

8   MR. CHOUDHURY: -- impeachment and to

9 refresh his recollection.

10   CHIEF JUDGE BARNETT: Okay. Go ahead.

11   THE WITNESS: Yes. That is my

12 testimony.

13   CHIEF JUDGE BARNETT: I'm sorry. Just

14 so the record is clear, this is testimony that was

15 given in the U.S. District Court for the Southern

16 District of New York on March 4, 2015, before the

17 Honorable Louis Stanton.

18   MR. CHOUDHURY: Thank you, Your Honor.

19   BY MR. CHOUDHURY:

20   Q.   So if you could look at Line 11. The

21 question you're asked is: "But you would agree

22 that your experiment doesn't say anything about

23 whether Pandora increases total music sales,

24 right?"

25   Your answer there is: "The results are

1 specific to the music that is included in the

2 experiments, which I agree is not all of the music

3 that is available on Pandora."

4   And then the question is: "Right. If

5 Pandora didn't exist, you're not testifying that

6 your music sales say anything about whether there

7 would be more music sales or less music sales in

8 the absence of Pandora, right?"

9   And you answer: "It's somewhere in

10 between. It provides insights on that, but it does

11 not directly address the question."

12   A.   I said --

13   Q.   Is that correct?

14   A.   -- exactly that. I would also direct

15 you to Line 1, which says: "That is certainly true

16 prior to the period of experimentation. But the

17 promotional effect for the music study does provide

18 insight on the general promotional effect."

19   CHIEF JUDGE BARNETT: Dr. McBride, I'm

20 going to ask you to read that again at normal

21 speed.

22   THE WITNESS: I apologize. So I was

23 reading you Line 1 from Page 1922, which says,

24 answer to a question: "That is certainly true

25 prior to the period of experimentation. But the

1 promotional effect for the music study does provide

2 insight on the general promotional effect."

3   I would say that directly pertains to

4 your interpretation of my Footnote 27.

5   JUDGE STRICKLER: That begs the

6 question: What insights?

7   THE WITNESS: Right. So I would assert

8 that it's the only -- it is, to my knowledge, the

9 only gold standard evidence of promotional or

10 substitutional effect of radio. And it suggests

11 that, because music is on Pandora, not correlation

12 but cause, Pandora causes sales to go up.

13   JUDGE STRICKLER: Sales of a specific

14 song that's been manipulated.

15   THE WITNESS: That's true.

16   The impact of the response from the

17 exposure effect, where I show figures 3(a) and

18 3(b), say increased exposure on Pandora causes or

19 is associated with higher promotional effect, which

20 my --

21   JUDGE STRICKLER: With regard to that

22 specific song.

23   THE WITNESS: True. But because it's

24 inducing higher sales of that song, the core issue

25 is where are those sales coming from? And it is

1 unknown broadly. But some of those, because of the

2 response from the increased exposure effect, it

3 suggests that it does induce pure promotional

4 effect of increased sales overall.

5   BY MR. CHOUDHURY:

6   Q.   Now, the answer you just gave, that is

7 specific to the song that is being manipulated,

8 correct?

9   A.   Is it not.

10   Q.   In fact, that's what your Footnote 27

11 assumption is about, right?

12   That if we wanted to know Pandora's

13 effect on aggregate sales of manipulated music, we

14 need to assume that the sales of a specific sound

15 recording are not affected by the manipulation of

16 other music in the experiments, correct?

17   A.   That's not correct.

18   For -- what Footnote 27 says is, for

19 the exact value reported in my study derived from

20 admittedly a sample of it -- of music, for that

21 exact value to be the aggregate promotional value

22 does require this assumption.

23   I'm not asserting that it is the true

24 promotional effect overall. I am noting that it

25 provides insights on the interpretation of is

1   Pandora promotional in general on music sales.

2   JUDGE STRICKLER: So you don't know

3   whether the net promotional effect could be lower

4   because it might just -- the sales of the

5   manipulated song may be offset to some extent by

6   fewer sales of a nonmanipulated song.

7   THE WITNESS: I agree.

8   JUDGE STRICKLER: And is it -- your

9   study doesn't address whether or not the reduction

10 in sales in the nonmanipulated song might swamp the

11 promotional effect on -- of the manipulated song.

12   THE WITNESS: I agree, Your Honor. It

13 doesn't directly test that.

14   My interpretation of the dose response

15 effect, the increased exposure of music on Pandora

16 being associated with higher promotional effect.

17 So if you're producing more exposure on this one

18 but less on this, that does produce a difference in

19 exposure which would be suggestive of an overall

20 effect on informing music sales.

21   Because, if you're giving this

22 particular song ten more spins, but you're giving

23 one extra spin to ten other songs, there's a

24 difference in quantity of exposure. And my

25 interpretation is that that provides insights on

1 the effect broadly.

2   But -- so my meaning in Footnote 27 is

3 simply, for the exact values I report to be Pandora

4 causes a broader music effect of the exact figures,

5 requires this assumption. And I did not test that

6 assumption. I think it provides insight.

7   JUDGE STRICKLER: Thank you.

8   BY MR. CHOUDHURY:

9   Q.   And just to be clear, your insights

10 there, you're not providing a statistically

11 significant value to the panel, right, on those

12 insights?

13   A.   It's not a test. It's not a

14 statistical test. It's an interpretation.

15   Q.   And you're not, in fact, providing any

16 numerical value on the net promotional effect;

17 you're saying that this is your interpretation from

18 what you're seeing, correct?

19   A.   That's correct.

20   Q.   Now, this experiment, I think we talked

21 about in your direct examination, happened at the

22 regional level.

23   You picked what we call DMAs, and you

24 chose on a either specific song or specific album

25 level two stops spinning Pandora on them, correct?

4371

1   A.   That's correct.

2   Q.   And then you compared the sales for

3   where DMAs were being -- where the song was being

4   spun to where it wasn't, right?

5   A.   Correct.

6   Q.   And that's because -- and you didn't

7   have listener level data, right?

8   A.   We wanted it, but we don't have it.

9   Q.   You don't have it, so you couldn't use

10 it.

11   A.   Could not use it.

12   Q.   Right.

13   So consumers inside a DMA who are not

14 subscribers to Pandora -- I mean let's say that I

15 am not a Pandora subscriber. I'm in one of your

16 DMAs. I buy music.

17   Are my purchases of music still

18 counted?

19   A.   Yes.

20   Q.   Okay. And consumers who are Pandora

21 users but didn't use Pandora during the weeks in

22 which your experiments were conducted, were their

23 purchases counted as well?

24   A.   Yes.

25   Q.   Okay. And consumers who are Pandora

4372

1 users would have never found the songs, either

2 because they had -- just have different tastes,

3 they would have never used the songs manipulated.

4   Were their purchases counted?

5   A.   Yes.

6   Q.   Okay. And it is true, right, that,

7 with respect to, for example, consumers who are not

8 Pandora users, you couldn't control which of them

9 received the treatment versus the control in terms

10 of the manipulation of the sound recording, right?

11   A.   False.

12   Q.   But you have no ability to, in fact,

13 control whether someone hears a song on Pandora or

14 not if they're not actually a Pandora user.

15   A.   I think that's a wrong interpretation.

16 So I agree --

17   Q.   Let's start with my question.

18   Do you have the ability to control a

19 user who is not a Pandora user with respect to

20 whether they're going to hear the sound recording

21 you're manipulating or not?

22   A.   They have the exact same experience as

23 everyone in our control.

24   Q.   Which is to say that they're not on

25 Pandora at all.

1   A.   So they're not exposed to the music.

2   Q.   But some of them are inside your

3   treatment DMAs, correct?

4   A.   That's correct.

5   Q.   And some of them are inside your

6   control DMAs, correct?

7   A.   That's correct.

8   Q.   And their purchases are being counted

9   toward the sales you call the first spin

10 performance of Pandora, correct?

11   A.   Yes.

12   Q.   Now, let's talk about consumers who

13 were Pandora users.

14   A.   Yes.

15   CHIEF JUDGE BARNETT: Before we go

16 there, Dr. McBride, was there any attempt to

17 compare the sound recordings that Pandora was

18 leaving in --

19   THE WITNESS: Yes.

20   CHIEF JUDGE BARNETT: -- or -- that's

21 the scientific term -- that Pandora was spinning

22 with contemporaneous activity on either other

23 streaming services or terrestrial radio?

24   For instance, if Taylor Perry or Katy

25 Swift or any of those were hot on terrestrial radio

1 at the same time that Pandora was using that

2 particular sound recording, you wouldn't know what

3 Pandora's effect was, correct?

4   THE WITNESS: We would.   So the direct

5 answer to your question is no, we didn't directly

6 control for that.   But it's included in the

7 experimental design.

8   So because we're randomizing, we're

9 accounting for some of those differences in --

10 perhaps Taylor Swift is really popular in

11 Nashville.   And so randomly, because part of

12 Nashville might be in the treatment, and part of

13 Nashville is in the control, we're comparing really

14 like to like.   And they might actually have access

15 to the exact same radio experience.

16   And so because we're randomizing and

17 running an experiment and we're manipulating the

18 experiment, so running a real experiment, we can

19 actually control for all of those things.

20   And so, if we had had those data and

21 been able to control for it, it's my contention

22 that our -- our confidence intervals would be

23 tighter.   We would have a more exact estimate and

24 higher statistical significance.

25   So we didn't do it.   But because of the

4375

1   randomization and the design of the study, it's

2   part of the reason we're able to control for that

3   difference. And that's a core difference between

4   observational and correlation.

5   In causation, because we're balancing

6   all of those differences, is this music on

7   terrestrial radio here or not, because it's

8   entirely balanced, we're able to account for that.

9   CHIEF JUDGE BARNETT: Okay. Thank you.

10   BY MR. CHOUDHURY:

11   Q.   And so just to follow up on that,

12   consumers who, for example, may have seen a TV show

13   like "The Voice," and then decided to go buy their

14   artist music, those purchases were counted in the

15   purchases you called the Pandora spin -- you know,

16   the effect of Pandora's performances, right?

17   A.   We did. We included all sales from

18   those regions.

19   Q.   And to follow up on your answer to

20   Judge Barnett, that's because you assumed that,

21   through your randomization, half the time those

22   performances would end up, you know, in a

23   controlled DMA and half in a treatment DMA?

24   A.   That's not an assumption. That's

25   testable. So for that to be true, all we had to do

1 was test whether or not we successfully randomized.

2 It is the exact same requirement for any clinical

3 trial to be valid. Did we randomize correctly.

4 And we tested that.

5   Q.   Did you randomize for how many consumer

6 purchases occurred as a result of a consumer

7 listening to Taylor Perry when she was hot on the

8 radio?

9   A.   I really don't know what that means.

10   Q.   Well, let me ask you. You say that

11 randomization is the way you can test for whether

12 you've controlled for these circumstances.

13   So my question to you sir, is --

14   MR. MARKS: My objection is just that

15 it mischaracterizes the witness's testimony. I

16 believe he was characterizing what he said. I

17 don't think it was an accurate or fair

18 characterization.

19   CHIEF JUDGE BARNETT: Would you

20 rephrase.

21   MR. CHOUDHURY: I'll rephrase, yes.

22   BY MR. CHOUDHURY:

23   Q.   Did your randomization -- did your

24 study of your randomization specifically look at

25 whether a consumer purchased music after watching a

4377

1   television show of their favorite artist?

2   A.   No. It seems quite unrelated.

3   Q.   And did your study specifically test

4   whether a assumer purchased music after using an

5   interactive service?

6   A.   No.

7   Q.   Did your study test whether a consumer

8   purchased music after attending a concert for their

9   favorite artist?

10   A.   No.

11   Q.   And did your study test whether a

12   consumer purchased music after watching a music

13   video?

14   A.   No.

15   Q.   And did your study test whether a

16   consumer purchased music while they were

17   simultaneously subject to other experiments on

18   Pandora?

19   A.   No.

20   Q.   And you agree with me that Pandora is

21   constantly running experiments on its users, right?

22   A.   I agree we run lots of experiments for

23   research purposes.

24   Q.   And so the subjects of your experiment

25   could have been subject to up to 50 different

1   experiments at any one time, right? Because that's

2   -- well, let me ask you.

3   Dr. McBride, how many experiments does

4   Pandora, on average, run on its listeners at any

5   given time?

6   A.   40 to 60.

7   Q.   And so any given consumer on Pandora

8   could be subject to 40 to 60 different experiments

9   in a given time.

10   A.   That's not correct.

11   Q.   And -- well, let me see.

12   What is the hold-out group on Pandora?

13   A.   There's many hold-out groups.

14   Q.   But how many -- is there a hold-out

15   group that is exclusively excluded from all

16   experiments?

17   A.   Yes. There's one of those.

18   Q.   And that is about what percentage?

19   A.   It's 1 percent of our listeners.

20   Q.   Okay. But your experiments were not

21   subject to the hold-out group, right?

22   A.   The steering experiments operated

23   through the AB framework. So yes, they did not --

24   Q.   Just to be clear --

25   JUDGE STRICKLER: They did not what?

1 Let him finish the answer.

2   THE WITNESS: They did not affect or

3 interact in any way with that one hold-out group.

4   The music sales experiments operated

5 outside of the AB framework because we're not able

6 to randomize at the individual level because we

7 didn't have individual-level transaction data.

8   And so because they were randomized at

9 the region, and we were getting music sales from

10 off platform, all U.S. listeners with a ZIP code,

11 so 95 percent of all of our listeners, were

12 randomized. So they -- including people in our AB

13 framework hold-out group.

14   BY MR. CHOUDHURY:

15   Q.   And so you agree with me that the

16 subjects of the music sales experiment could have

17 been subject simultaneously to other experiments

18 from Pandora, correct?

19   A.   Yes.

20   Q.   Okay. Now, you determined the

21 treatment versus the control group -- I think we --

22 by looking at a user's ZIP code, correct?

23   A.   That's correct.

24   Q.   And that's the ZIP code they either

25 provided to Pandora when signing up or subsequently

4380

1   updated, correct?

2   A.   That's correct.

3   Q.   And I think you testified that Pandora

4   can sometimes prompt users to update their ZIP

5   code, correct?

6   A.   We do do that sometimes.

7   Q.   But you didn't prompt any users to

8   update their ZIP code as part of the music sales

9   experiment, right?

10   A.   I did not.

11   Q.   And so, if they hadn't updated their

12   ZIP code, and they moved, you would be using the

13   incorrect ZIP code, right?

14   A.   This goes to the dilution point I went

15   about earlier. But yes, I agree. They would be in

16   a control region if they were assigned to

17   treatment, and --

18   Q.   Just so we make it very clear. I think

19   we talked about this in your deposition.

20   If I was a user who lived in Washington

21   State, and then I moved to Washington, D.C., but I

22   didn't update my ZIP code, your experiment would

23   have called me a Washington State user, correct?

24   A.   That's correct.

25   JUDGE STRICKLER: And sometimes he

1 would have shown up in the treated group, and

2 sometimes he would have shown up in the untreated

3 group?

4   THE WITNESS: Yes. Because of the

5 regional variations across all of the experiments.

6   BY MR. CHOUDHURY:

7   Q.   And you're aware that -- or are you

8 aware that, among younger demographics, like 18 to

9 25, those individuals frequently move, correct?

10   A.   Yes.

11   Q.   And you didn't do anything to

12 particularly update the ZIP codes of that

13 demographic, correct?

14   A.   I didn't update the ZIP code data, no.

15   Q.   And you matched up the sales by looking

16 at sales within a DMA, right, from Nielsen

17 SoundScan?

18   A.   That's correct.

19   Q.   And how does Nielsen SoundScan

20 determine what sales occur in a DMA?

21   A.   They get data from retailers from where

22 the sale occurred.

23   Q.   On where the sale occurred, correct?

24   A.   Correct.

25   Q.   So if I drive to another DMA -- for

4382

1 example, I live in one Nashville DMA; I drive to

2 the other one -- you would have reported the sale

3 where it occurred, correct?

4   A.   Correct.

5   Q.   Even if my registered ZIP code with

6 Pandora was in the first DMA --

7   A.   Correct.

8   Q.   -- correct?

9   And that would have been a mismatch in

10 your data between where the sale occurred and where

11 the user was, as far as Pandora is concerned,

12 experiencing the treatment.

13   A.   So they would experience that treatment

14 anywhere. But I would agree that we would allocate

15 them to a region that they were not resident and

16 they would make purchases elsewhere, in -- in your

17 situation.

18   Q.   And you tried to use predictive

19 information about sales in the DMA; is that right?

20   A.   Yes.

21   Q.   But that predictive information

22 wouldn't necessarily measure the sales of a song

23 that was new to Pandora, correct?

24   A.   I -- can you explain that?

25   Q.   Your predictive information about a DMA

4383

1   was predictive information about past sales in the

2   DMA, correct?

3   A.   Yes.   Absolutely.   Certainly

4   pre-experiment.

5   Q.   Right.

6   And you know that albums have

7   lifecycles of sales, right?

8   A.   Yes.

9   Q.   They tend to sell more upon release and

10 less in the weeks that follow?

11   A.   Yes.

12   Q.   And so, if a song was new to Pandora,

13 that would be at a particular point in its

14 lifecycle, correct?

15   A.   All over the lifecycle.   We have new

16 music on Pandora that is very new to the world.

17 And we ingest and have new music on the service

18 that is a little older, yes.

19   Q.   And I know you haven't studied

20 seasonality.

21   Did you account for seasonality in this

22 experiment?

23   A.   We did not.

24   Q.   And all of the music sales experiments

25 occurred over the summer, correct?

1   A.   Starting at different periods. But

2 yes, they all occurred over the summer of 2014.

3   Q.   And one thing you did find out is that

4 sales releases are actually higher in the music

5 industry in the summer, correct?

6   A.   Yes.

7   Q.   But you didn't do anything to control

8 for any possible seasonality effect?

9   A.   So those are different. But I agree

10 that I didn't account for that. So --

11   JUDGE STRICKLER: So you said that's

12 different.

13   What's different?

14   THE WITNESS: Right. So seasonality I

15 interpret as differences in purchasing patterns

16 rather than more music being available and you

17 purchasing at the same rate, but there's a greater

18 quantity. And because we're calculating a

19 percentage, it's --

20   BY MR. CHOUDHURY:

21   Q.   In terms of what a sale meant for your

22 study, you didn't include physical singles, right?

23   A.   We did not.

24   Would you like to know why?

25   Q.   Well, because it's not in the Nielsen

4385

1 SoundScan data, correct?

2   A.   Sorry. Say that again.

3   Q.   It isn't reported to you by Nielsen

4 SoundScan, correct?

5   A.   No. Incorrect. Nielsen's

6 representatives said it's not worth it, that there

7 are 1,000 units of physical sales per week, and

8 since we were getting around 5 million total sales

9 a week --

10   Q.   See, but you -- and you made an

11 independent judgment, too, that you didn't think it

12 was worth it to include it in the study, correct?

13   A.   We decided not to include that

14 additional form that where Pandora could be

15 promotional.

16   Q.   Let's understand how -- if an album is

17 purchased, how that counted in your study.

18   So if an album was purchased, you used

19 what you called track equivalent album; you counted

20 that as ten sales, correct?

21   A.   So yes, it counted as ten units, which

22 is Nielsen's measure of the average number of

23 tracks per album.

24   Q.   Right.

25   And you used what Nielsen said, right?

1   A.   We used their standard measure of units

2 of sale, yes.

3   Q.   And in the new music sales experiments,

4 let's understand how an experiment's created.

5   So a song comes into Pandora, Song A,

6 let's call it, correct? Right?

7   A.   Okay.

8   Q.   And it meets your inclusion criteria.

9   And so then the album that song A is on

10 becomes an experiment, correct?

11   A.   That's correct.

12   Q.   Now, if there is Song B on the same

13 album, and I purchase Song B, do you count that as

14 a sale toward that experiment?

15   A.   Yes. That was one unit of sale.

16   Q.   Even if Song A is the one that is

17 manipulated in the treatment and control?

18   A.   No. All of tracks on that album, A, B,

19 C, through let's say F, would also be included.

20 All of those would be turned off for a person in

21 the control.

22   Q.   But if Song A is the new-to-Pandora,

23 how do we know that Song B was even ever going to

24 play on Pandora?

25   A.   So we don't. That said, if we're not

1 manipulating it, we're driving our promotional

2 effect down.

3   Q.   But, of course, you're still counting

4 those sales as sales towards the total sales that

5 you're measuring, correct?

6   A.   Correct.

7   Q.   Okay. And you chose to end the

8 experiments after eight weeks and then, in one

9 instance, after four weeks, correct?

10   A.   We designed our experiments before

11 starting them. And we set periods of

12 experimentation, which were, in all cases, eight

13 weeks with the exception of the final ones, which I

14 agree were four weeks.

15   Q.   And did you decide, prior to starting

16 experiments, that the final one would be four

17 weeks?

18   A.   Yes.

19   Q.   And why did you want to have one

20 four-week experiment and the rest of them eight

21 weeks?

22   A.   We were required to finish our research

23 prior to the filing of evidence in this case.

24   JUDGE STRICKLER: Required by whom?

25   THE WITNESS: Pandora broadly. We --

1 part of it was we had a limited access to data from

2 Nielsen SoundScan, which had an end date from our

3 original agreement. So we had to meet that.

4   That end date was based originally on

5 needing to finish our research by the end of the

6 period.

7   JUDGE STRICKLER: The period meaning --

8 being defined as what?

9   THE WITNESS: The period of research

10 where we could get access to music sales data from

11 Nielsen. And so our agreement with Nielsen I think

12 ended September 13.

13   JUDGE STRICKLER: And the period -- the

14 end date was a function, in part, of when evidence

15 needed to be submitted in this proceeding?

16   THE WITNESS: Yes.

17   JUDGE STRICKLER: Thank you.

18   BY MR. CHOUDHURY:

19   Q.   And just to follow up on that, you knew

20 that the margin of error in your study would

21 decrease if you extended the experiment out to 12

22 weeks or 16 weeks, correct?

23   A.   Yes. We did many studies before

24 starting experiments to design our experiments.

25   Q.   Right.

1   But you chose eight weeks and for

2   weeks, correct?

3   A.   We analyzed the data that you might

4   present would show that we would get precise

5   estimates of a promotional effect, if there be one,

6   using eight weeks' data. We made the judgment to

7   use eight weeks.

8   Q.   Now, Dr. McBride, I want to take a look

9   at some of the results that we were looking at. So

10   if we can start with Table 4 in your testimony.

11   And if you -- if you want to look at that.

12   CHIEF JUDGE BARNETT: Can you give us a

13   page reference, please.

14   MR. CHOUDHURY: I wish I could. It's

15   in the middle of his written direct testimony, but

16   it's not actually page numbered.

17   JUDGE STRICKLER: Figure or a Table 4?

18   MR. CHOUDHURY: So it's -- I want to

19   look at Table 4. And so this is between Table 3

20   and 5.

21   This is -- so there's the testimony,

22   then the figures, then the tables. And this is the

23   one that says "Music Sales Experiment Effective

24   Performance on Pandora By Music Ownership Group."

25   BY MR. CHOUDHURY:

1   Q.   Now, I think we discussed this in your

2   direct, that you did not find a statistically

3   significant effect on what you label here as other

4   recording label, correct?

5   A.   I agree.

6   Q.   And if we look at -- within the

7   confidence interval there, noting that it's not

8   statistically significant result, am I reading this

9   correct that, when it says negative 2.86, that

10   would be the possibility of substitution?

11   A.   Correct.

12   Q.   And if we look at the confidence

13   intervals for majors where you found a

14   statistically significant result, within the

15   confidence interval there's still a possible effect

16   of less than 1 percent, correct?

17   A.   That's the lower range, but yes.

18   Q.   So now if we could turn to Table 7.

19   So now, if we look at Table 7 with

20   respect to the new music experiments, am I correct

21   that this is the same experiments, but you're using

22   a Poisson regression as your estimator instead of

23   TMLE, correct?

24   A.   Yes.

25   Q.   Okay. And here you do not find a

1 statistically significant result, correct?

2   A.   Not at 5 percent. I agree.

3   Q.   And, in fact, if we look at the Poisson

4 regression, you find the possibility of

5 substitution within the confidence interval of all

6 experiments, majors and others, correct?

7   A.   I presume you're talking about new

8 music and not --

9   Q.   Yes. The new music.

10   A.   Oh, okay. Yes. That's correct.

11   Q.   Now, you made the decision to use the

12 TMLE methodology as your estimator, correct?

13   A.   My colleagues and I, as researchers,

14 prior to experimentation, before we had any data,

15 we did select that as our estimator, yes.

16   Q.   So you -- but you had personally never

17 used TMLE, right?

18   A.   I had not.

19   Q.   And also that's true with the respect

20 to your six years at Analysis Group; you never used

21 TMLE there, right?

22   A.   That's correct.

23   JUDGE STRICKLER: Excuse me.

24   You said you decided to use TMLE before

25 you ever had any of the data.

1   THE WITNESS: That's correct.

2   JUDGE STRICKLER: Is there

3   documentation to that effect?

4   THE WITNESS: We didn't write that

5   down. What we can say and is -- has been produced

6   is that we used it to analyze the pilot prior to

7   having any data.

8   And what I would say more broadly is my

9   colleague, Oliver Bembom, who assisted with this

10 research, his adviser was the creator of this

11 method. He used it numerous times at previous

12 work.

13   And for numerous statistical

14 properties, specifically contrary to the Poisson

15 regression, it's proven mathematically to produce

16 the smallest confidence interval, the most precise

17 estimate for promotion or substitutional effect.

18   JUDGE STRICKLER: So you used the TMLE

19 when you did the pilot?

20   THE WITNESS: Yes, we did.

21   JUDGE STRICKLER: Is there

22 documentation of that in the record?

23   THE WITNESS: Yes, there is.

24   JUDGE STRICKLER: In your report?

25   THE WITNESS: It was in the materials

1   that were provided as exhibits last night.

2   MR. MARKS: And, Your Honor, if I could

3   clarify one question.

4   I think it's possible the witness may

5   be confusing your question about whether or not

6   something in the record with whether or not it's

7   reflected in information that was produced during

8   the discovery phase.

9   JUDGE STRICKLER: Fair enough. So let

10 me ask counsel is the use of TMLE in the pilot

11 project something that's been in evidence in this

12 case now?

13   MR. MARKS: I don't believe so beyond

14 his testimony.

15   MR. CHOUDHURY: And we -- I think, when

16 we get to the restricted section, we'll get --

17 we'll look at that document.

18   JUDGE STRICKLER: Okay. We'll wait.

19   BY MR. CHOUDHURY:

20   Q.   So just with respect to TMLE, you

21 didn't discover TMLE through your college, Oliver

22 Bembom, right?

23   A.   That's correct.

24   Q.   How did you discover it?

25   A.   I ran into a professor who mentioned

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1 it.

2   Q.   And that was at the airport, and this

3 is the Berkeley statistics professor?

4   A.   He's a Berkeley professor, I believe of

5 econometrics, but...

6   Q.   And you did take a graduate statistics

7 course just a year or two ago, correct?

8   A.   I took two courses, one of which I

9 audited. A data analysis, empirical analysis

10 course using a particular statistics language from

11 Stanford. And I also took another course through

12 an online source.

13   Q.   And neither of those courses refer to

14 TMLE, correct?

15   A.   They do not cover that, no.

16   Q.   And in your work at Analysis Group, did

17 you know anyone else who applied TMLE?

18   A.   Not to my knowledge.

19   Q.   Now, I think a second ago, in response

20 to Judge Strickler's question, you said that TMLE

21 has a very small confidence number, right?

22   A.   That's a math proof, yes.

23   Q.   And so, therefore, it's most likely to

24 generate a statistically significant result, right?

25   A.   I mean yes and no. I mean that is

4395

1 certainly the implication. But that's because of a

2 core statistical property, which is that it is

3 efficient. It has the smallest confidence

4 interval.

5   Q.   Right.

6   And so the answer to my question is it

7 is most likely to generate a statistically

8 significant result, right?

9   A.   If there is, in fact, a true effect.

10   Q.   And if the music sales experiment found

11 a statistically significant result that was not

12 promotional, that would be helpful to the evidence

13 Pandora presents in this proceeding, correct?

14   A.   That's seems logical.

15   Q.   And you knew that these studies were

16 done at the direction of counsel, correct?

17   A.   Yes.

18   Q.   And that, if they were helpful, they

19 were likely to be offered in this proceeding,

20 correct?

21   A.   Yes.

22   Q.   And when you were conducting the study,

23 you were assuming that, if they did not -- if they

24 were not helpful, they would not be used in this

25 proceeding, correct?

1   A.   So I assumed that they would not be

2 presented by Pandora. But I have no sense of the

3 discovery process, whether or not they would be

4 provide by yourselves.

5   Q.   So when you were making the decision to

6 use TMLE, you knew it was most likely to produce a

7 statistically significant result, correct?

8   A.   It satisfies -- it has that

9 implication.

10   Q.   And that result, if net promotional,

11 would be helpful to Pandora in this proceeding,

12 correct?

13   A.   Among other settings, yes.

14   Q.   And if net substitutional, you were

15 assuming that Pandora would not present that study

16 in this proceeding, correct?

17   A.   I -- yes.

18   Q.   And the steering experiments, they did

19 not use the TMLE methodology as an estimator,

20 right?

21   A.   That's correct.

22   Q.   And those were done at Dr. Shapiro's

23 instruction, correct?

24   A.   That's correct.

25   Q.   And he is not a full-time Pandora

1   employee, right?

2   A.   He is not.

3   Q.   And at his instruction, you used a

4   difference in unconditional means analysis,

5   correct?

6   A.   Yes, we did.

7   Q.   If you had used a difference in

8   unconditional means analysis for the music sales

9   experiments, you would agree with me that your

10   results were much more likely to have not been

11   statistically significant, correct?

12   A.   Correct.

13   Q.   And even though you knew that, you

14   didn't attempt to use analysis under this

15   difference in unconditional means, which I think at

16   least you can tell us is not -- is the more

17   conventional estimator, correct?

18   A.   It's also -- it is more conventional,

19   and it's also inappropriate in this setting.

20   Q.   I'd like to take a look at Table 5.

21   A.   Yes.

22   Q.   Okay. So here is where you attempt to

23   put a per-spin effect on the revenue to labels and

24   artists, correct?

25   A.   Yes.

1   Q.   And what you see here is that, using

2 your own numbers, the per-spin effect on catalog is

3 much smaller than the per-spin effect you found on

4 the new music sales experiments, right?

5   A.   That's direct.

6   Q.   And there, in fact, is not a

7 statistically significant effect when we look at

8 other recording labels under new music experiments,

9 right?

10   A.   I agree.

11   Q.   Now, I want to draw your attention to

12 Footnote 1. Here it says: "Results are cents per

13 spin assuming that track equivalent units sell for

14 $1," correct?

15   A.   Yes.

16   Q.   And this assumption is important to

17 your calculation in this table, correct?

18   A.   Yes.

19   Q.   Okay. And that's not -- $1 is not the

20 revenue that a label or artist receives from a sale

21 of a single, correct?

22   A.   Correct.

23   Q.   Because a label or artist receives

24 approximately 70 percent of the sale, correct?

25   A.   That's my understanding.

1   Q.   And so, when a song is sold, a label or

2 artist would actually receive 70 cents, not a

3 dollar, correct?

4   A.   I agree.

5   Q.   And so if that's true, then Table 5 is

6 not an accurate statement of the revenue to labels

7 and artists, right?

8   A.   I think the title is not as clear as I

9 would like. This estimate of retail price, and I

10 agree -- so this is gross, and then there is a net

11 implication.

12   Q.   Right.

13   So you agree with me that this does not

14 reflect the revenue to labels and artists.

15   A.   Yes.

16   Q.   And you didn't consult with anybody

17 about whether $1 a track was the appropriate

18 assumption, right?

19   A.   I didn't when I submitted it.

20   Q.   And you didn't consult with any

21 industry sources either, right?

22   A.   Not when I submitted this.

23   Q.   At the time of your study, you also

24 weren't aware of the average album price in the

25 industry, correct?

1   A.   That's correct.

2   Q.   And you didn't look at how catalog

3 albums are priced in the industry, correct?

4   A.   That's correct.

5   Q.   And you aren't aware of whether

6 download signals could be priced at a retail level

7 lower than a dollar, correct?

8   A.   I knew that to be true.

9   MR. CHOUDHURY: Okay. Mr. Nichols, I'm

10 going to ask you if you can pull up the first

11 demonstrative, please. And yeah, we've also handed

12 out the demonstrative slides there in the folder.

13   BY MR. CHOUDHURY:

14   Q.   Dr. McBride, do you recognize this?

15   A.   I do.

16   Q.   Okay. What is this?

17   A.   This is Apple iTunes, which was

18 accessed by Philip recently. And it shows some of

19 the recent songs that were available for sale for

20 digital download from iTunes and also shows their

21 prices.

22   Q.   And you would agree with me that at

23 least some of the downloads are sold at 69 cents,

24 correct?

25   A.   I see that, yes.

1   Q.   And do you also see in the top left

2 where it says: "New album plus 7.99 albums"?

3   A.   Yes, I do.

4   Q.   So you'd agree with me that some albums

5 are priced at 7.99, correct?

6   A.   I interpret it that way, yes.

7   Q.   And so, if we assume that an album was

8 ten songs, that would actually be less than a

9 dollar a song, correct?

10   A.   That would be.

11   MR. CHOUDHURY: And if we can go to the

12 second slide.

13   BY MR. CHOUDHURY:

14   Q.   Dr. McBride, here we're looking at the

15 B.B. King album, which I think if we got lower on

16 the first demonstrative, you'd see is actually on

17 the top 10 right now.

18   Do you see that it's a 7.99 buy?

19   A.   I see that it's priced at -- oh, sorry.

20 Yes. I see exactly those words.

21   Q.   And that is, in fact -- and I'm going

22 to represent to you it's, in fact, a top 10 album,

23 correct?

24   A.   I'll accept that representation.

25   Q.   So even new albums or albums that are

4402

1   -- let's not say new albums. Let's withdraw that.

2   Even albums that are high on the charts

3   can be priced below $10, correct?

4   A.   Yes.

5   Q.   Just so we're clear, you didn't have

6   anyone look at the price of the albums in your

7   experiment at the time of the experiment, correct?

8   A.   Correct.

9   Q.   And you didn't have anyone look at the

10   price of the digital singles in your experiment at

11   the time of the experiment, correct?

12   A.   That's correct.

13   Q.   That was true for both the new music

14   sales and the catalog music sales experiments,

15   right?

16   A.   That's correct.

17   Q.   And you haven't done any analysis to

18   see how sensitive the results you're reporting in

19   Table 5 are to your assumption in Footnote 1,

20   correct?

21   A.   It's straight math. So any changes in

22   that assumption would directly scale the numbers.

23   So if the number were 25 percent higher, all of the

24   numbers in the table would be exactly 25 percent

25   larger. If it was 25 percent lower, all the

1   numbers on the table would be exactly lower.

2   Q.   And if you looked at Table 6, Table 6

3   is dependent on your results from Table 5, correct?

4   A.   It is.

5   Q.   So if those were incorrect, so too

6   would be Table 6, correct?

7   A.   So the effect estimate in revenue terms

8   would be affected by the price assumption. The

9   confidence interval and the P value, whether or not

10   the results are statistically significant, are not

11   dependent on the assumed price.

12   Q.   So thank you for that clarification.

13   If we look at Footnote 1 on Table 6,

14   are you making the same assumption in Footnote 1,

15   Table 6, that you made in Footnote 1 of Table 5?

16   A.   Yes.

17   Q.   Now, if we can look at Figure 3(a). So

18   this is a figure. So we're now pretables.

19   A.   Sorry for that.

20   CHIEF JUDGE BARNETT: Do you have a

21   page number for that one?

22   MR. CHOUDHURY: You know, it -- the

23   figures are right before the tables.

24   CHIEF JUDGE BARNETT: Oh, thank you.

25   MR. CHOUDHURY: So I can give you

4404

1 the -- between Figure 2 and Figure 3(b).

2   THE WITNESS: I apologize for not

3 having sequential numbering.

4   JUDGE STRICKLER: 3(a)?

5   MR. CHOUDHURY: 3(a).

6   BY MR. CHOUDHURY:

7   Q.   And this was a figure that we looked at

8 during your direct examination, correct.

9   A.   Correct.

10   Q.   Now, you would agree with me that, on

11 all three of your graphs, at the 50-spin-per-sale

12 threshold, you find a statistically insignificant

13 result, correct?

14   A.   That's correct.

15   Q.   So just so we're clear, it's not a

16 linear dosage; it's not that, the more spins per

17 sale, it'll automatically increase, correct?

18   A.   I don't think that interpretation can

19 be made from a single data point. A linear

20 relationship can still have noise around it.

21   So if you drew a line, that could still

22 fall within the upper confidence bands of those

23 points. So I agree that those points are

24 insignificant.

25   Q.   And, Dr. McBride, do you have any

4405

1   explanation for why you get a statistically

2   insignificant result at every -- on all three

3   charts at the 50-spin-per-sale threshold but not

4   necessarily at thresholds lower than that?

5   A.   I think it's -- the data are speaking.

6   These are the results.

7   Q.   Okay. If we can look at Page 21 of

8   your written direct testimony.

9   A.   I'm there.

10   Q.   So there you write: "It's logical that

11   Pandora would not create a detectible impact on

12   sales for songs that are playing heavily on

13   alternative platforms while playing very little

14   relatively on Pandora," right?

15   And we used Taylor Swift as an example,

16   so of course that got my attention, right?

17   So what we're talking about here is the

18   dosing effect, correct?

19   A.   So -- largely, yes.

20   Q.   And what you're saying here is that, if

21   a song is spinning on an alternative platform at a

22   very high level, for example, it's getting a lot of

23   terrestrial spins, and it's not spinning that much

24   on Pandora, you wouldn't actually see a very large

25   promotional effect, right?

4406

1   A.   That stands to reason.

2   Q.   And so, as long as a song is spinning

3   on an alternative platform at a high level, you

4   wouldn't actually see the large promotional effect

5   that you're reporting in your study, correct?

6   A.   Sorry. Could you repeat that, please.

7   Q.   Sure.

8   Here we're looking at Paragraph 46.

9   And what you're explaining there, I believe, but

10 correct me if I'm wrong, is that, if a song is

11 spinning on an alternative platform at a high rate,

12 but it's spinning relatively little at Pandora, you

13 wouldn't expect to see a promotional effect, right?

14   A.   I -- if it's spinning at a low rate, I

15 agree.

16   Q.   And so the promotional effect of

17 Pandora is actually dependent in some sense on the

18 availability of the song on alternative platforms,

19 correct?

20   A.   So our ability to estimate it does not,

21 but the estimate amount might -- might depend on

22 whether it's --

23   Q.   Right.

24   You would estimate a lower promotional

25 effect if a song was spinning heavily on

1 alternative platforms, correct?

2   A.   That's not what I said. What I said

3 was, when that's true and it's spinning very little

4 on Pandora.

5   So it stands to reason to me, if it has

6 essentially no exposure on our service, I don't --

7 I find it unlikely that we would be promotional for

8 that. I'm sure we cannot defect it when we have

9 such a minuscule effect relatively.

10   Q.   Well, the logical inference you're

11 drawing is that the availability of a song on an

12 alternative platform would affect the possible

13 promotional effect on Pandora, correct?

14   A.   I didn't say that.

15   Q.   Okay. I just want to be clear. I

16 think we talked about this earlier.

17   You testified about these experiments

18 in the BMI rate court proceeding, correct?

19   A.   That's correct.

20   Q.   And you're aware that Judge Stanton had

21 issued a decision in that proceeding, correct?

22   A.   I'm told that's the case, yes.

23   Q.   Do you know whether Judge Stanton

24 relied on the music sales experiments as part of

25 their opinion?

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1   MR. MARKS: I'm just going to object to

2   the -- just caution the witness -- I don't know

3   what the witness -- if he has an understanding

4   other than as a result of conversation of counsel.

5   But I just want to be clear it's not going to be

6   intruding on conversations that Dr. McBride may

7   have had with counsel.

8   CHIEF JUDGE BARNETT: If you can answer

9   the question without revealing a conversation

10   you've had with counsel, then you may answer.

11   JUDGE STRICKLER: Also, just -- didn't

12   we hear this morning that the decision is

13   embargoed? So if it's embargoed, even if he knows,

14   why would we violate the embargo and let him say

15   something that he knows otherwise is --

16   MR. CHOUDHURY: Your Honor, I'll

17   withdraw the question.

18   And, in fact, at that point, we should

19   move to restricted session for the rest.

20   CHIEF JUDGE BARNETT: Okay. We will be

21   closing the hearing room now to anyone who has not

22   signed the nondisclosure certification.

23   MR. CHOUDHURY: I actually have a few

24   more public questions, but -- so people can hang

25   around while I'm asking them if they want.

1   THE WITNESS: I'll stay.

2   MR. CHOUDHURY: Great. Me too.

3   BY MR. CHOUDHURY:

4   Q.   Dr. McBride, I want you to assume for a

5   second that, in your experiment, 90 out of a

6   hundred listeners stopped buying music because of

7   what they heard of Pandora. They just -- they

8   decided to walk away. And ten out of the hundred

9   users decided to buy more music because of what

10 they heard on Pandora.

11   Does your experiment show the effect on

12 the 90 users who walked away?

13   JUDGE STRICKLER: When you say walk

14 away, you mean walk away from purchasing?

15   MR. CHOUDHURY: From purchasing.

16   THE WITNESS: I think so. Because they

17 would be randomized between treatment and control.

18   BY MR. CHOUDHURY:

19   Q.   So if someone chooses not to purchase,

20 in this example the 90, how would we see that in

21 your results?

22   A.   So sorry. You're saying that 90

23 percent have chosen not to purchase anything. We

24 see a difference in whether or not there are sales.

25   So your hypothesizing that Pandora

1   caused them to stop purchasing?

2   Q.   For example, they thought that Pandora

3   was satisfying enough that it was net

4   substitutional for them.

5   A.   I'll have to think about it more. My

6   general sense is that it's an extreme hypothetical.

7   If they're randomized, we would not see any

8   promotional or substitutional effect.

9   Q.   And for any individual user who decided

10   not to purchase because of what they heard on

11   Pandora, how would we see that substitution effect

12   reflected in your results?

13   A.   That would not directly be observable.

14   We would observe other effects.

15   MR. CHOUDHURY: Okay. Now let's move

16   into a few restricted questions about some of the

17   documents.

18   (THIS ENDS PUBLIC SESSION)

19   (RESTRICTED SESSION BOUND SEPARATELY)

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1   (THIS BEGINS PUBLIC SESSION)

2   MR. RICH: Thank you, Your Honors.

3   REBUTTAL EXAMINATION BY COUNSEL FOR PANDORA

4   (CONTINUED)

5   BY MR. RICH:

6   Q.   Welcome back, Professor Shapiro.

7   A.   Thank you.

8   Q.   I wish I could say it feels like

9   yesterday, but honestly, it doesn't.

10   We left off -- still covering on your

11   prior examination, a series of topics drawn from

12   your original rebuttal testimony.

13   Do you recall that?

14   A.   I do.

15   Q.   And just to recenter where we are, if

16   you will take a look at the first -- pardon me, at

17   the second document in the demonstrative which

18   begins: "Seven major topics."

19   Do you have that?

20   A.   Yes.

21   Q.   We covered Topics 1 through 4 as of the

22   time we interrupted your examination, and

23   therefore, Your Honors, we're going to pick up with

24   Topics 5 through 7 beginning this afternoon.

25   So Topic 5, Professor Shapiro, relates

4469

1   to Professor Rubinfeld's theory of convergence,

2   which you discuss in considerable detail in your

3   written rebuttal testimony principally at Pages 42

4   to 47; is that correct?

5   A.   Yes, that's right.

6   Q.   So as a preliminary matter, at a high

7   level, what is your reaction to Professor

8   Rubinfeld's convergence analysis?

9   A.   So I have two main points regarding

10   convergence. First is, I think it's disconnected

11   from the benchmarking exercise that we're -- when

12   we really get down to it, in terms of setting the

13   rates.

14   The second, I think that the way it has

15   been portrayed and used is quite inaccurate in

16   terms of what is going on in the market.

17   Q.   So we're going to drill down on both of

18   those, but as a preliminary, what is it you

19   understand to be Professor Rubinfeld's central

20   thesis as it relates to convergence?

21   A.   Well, as he states in his written

22   direct testimony, his convergence theory is that

23   interactive services on the one hand and Webcasters

24   on the other are relatively close substitutes.

25   Q.   So assuming for the moment that that

1 premise was factually correct and proven, we will

2 come back to that in a bit, even so, in your

3 opinion, would that justify and support the use of

4 the proposed interactive benchmark in this

5 proceeding?

6   A.   No, it would not.

7   Q.   Can you explain to the judges why you

8 have concluded that it would not, and feel free to

9 make reference back to our favorite Figure 5 as

10 part of that.

11   A.   I have it and I've already turned to

12 Figure 5, so I -- I think you all have, Your

13 Honors, the slide deck so I told you this was going

14 to be my go-to figure and here we are.

15   Just to remind you, this depicts the

16 downstream market for listeners and then the two

17 upstream markets we have been talking about, the

18 interactive market and the statutory or Webcasting

19 market.

20   So convergence is a claim or a

21 statement about the downstream market, that the

22 interactive services are relatively close

23 substitutes to the statutory Webcasting services.

24 We are ultimately -- when we get back to the

25 benchmarking, going to be talking about -- we have

4471

1 a proposed benchmark by Professor Rubinfeld in the

2 interactive upstream market, and he is making a

3 claim that is a good benchmark for the statutory

4 market.

5   That involves a comparison of two

6 upstream markets, while as the convergence theory

7 is about the downstream market. So there is a

8 disconnect right there as a starting point.

9   Q.   And --

10   JUDGE STRICKLER: Excuse me. Again,

11 this goes back to your testimony from several days

12 ago, Professor, the difference between upstream

13 market is that in the interactive market, the

14 repertoire from the various services, various

15 record companies are must-haves or essential for

16 the interactive, whereas your testimony are not for

17 the noninteractive; is that correct?

18   THE WITNESS: Not quite right. The

19 starting point here is -- the first part of that,

20 yes, absolutely. They, I think, generally it's

21 been established that the major record company

22 repertoires are must-haves for the interactive

23 services.

24   And that is the problem that -- I think

25 we have monopoly rates in that market. I have not

1 said -- I don't know one way or another about

2 whether the major record companies are must-haves

3 in the statutory market. So this argument is not

4 based on that. Such a claim there.

5   JUDGE STRICKLER: Maybe we are getting

6 ahead of ourselves, but is the concept of steering

7 that's injected into your testimony designed to

8 show that they are and must-haves to the same

9 extent to the noninteractive market as they are to

10 the interactive market?

11   THE WITNESS: I think of steering and

12 must-haves as two separate concepts. Steering is

13 -- refers to the -- we are going to be talking

14 quite a bit tomorrow as well, refers to the ability

15 of a service to shift the mix of the performance.

16 That is the music that played to their users or

17 listeners, in particular, in response to different

18 royalty rates, so that is a -- shifting the mix.

19 Must-have is what happens to a service if they have

20 complete lack of access to an entire repertoire.

21 Those are different questions.

22   JUDGE STRICKLER: Are you going to

23 address whether you considered the repertoire of

24 all the majors as must-haves in the noninteractive

25 market as your testimony continues?

4473

1   THE WITNESS: My -- so in terms of the

2   rebuttal part of my testimony, neither parts of my

3   testimony is --

4   JUDGE STRICKLER: Hang on one second.

5   MR. POMERANTZ: This is an issue that

6   we addressed the last time that Professor Shapiro

7   was here and I think an objection that I made was

8   sustained because he did not offer an opinion on

9   that subject, either in his written testimony or --

10   well, in his written testimony, either rebuttal or

11   direct, and therefore, we felt it was not proper

12   for him to offer an opinion now and I believe that

13   objection was sustained.

14   JUDGE STRICKLER: In any event, I think

15   it deals with -- I think it deals with his direct

16   testimony rather than his rebuttal testimony, so

17   maybe I just jumped gun by asking that question

18   now.   Maybe we revisit that -- this whole issue.

19   THE WITNESS: I think I can clarify

20   without -- while being respectful of

21   Mr. Pomerantz's objection.

22   JUDGE STRICKLER: It is leading into

23   your direct testimony so why don't we just wait.

24   Hold it and continue on with the rebuttal.

25   MR. RICH: We are entirely flexible

1   with whatever Your Honors prefer.

2   BY MR. RICH:

3   Q.   Staying with -- again, the factual

4   premise, taking it for the sake of discussion to be

5   true, that interactive and noninteractive services

6   are, as Professor Rubinfeld asserts, relatively

7   close substitutes, what would that tell us about

8   whether interactive and noninteractive services are

9   similar buyers in the relevant upstream market

10   here?

11   A.   So it does not -- the convergence

12   theory does not imply that they are similar buyers

13   in the upstream market. So Professor Rubinfeld's

14   own test for benchmark asks, are they similar

15   buyers. And convergence, he falls back on that to

16   defend the use of the benchmark but it is not

17   actually about the buyers, the two buyers in the --

18   as licensees of recorded music.

19   So it doesn't address the -- go to his

20   own tests. Again, I come back -- the fundamental

21   problem is we have monopoly rates in the

22   interactive market and convergence does not address

23   that fundamental flaw with his benchmark.

24   Q.   Again, taking as a given for purposes

25   of just this portion of our examination, that

4475

1   interactive and noninteractive services are

2   relatively close substitutes as Professor Rubinfeld

3   asserts, what would that tell us about whether the

4   royalty rates as a percentage of retail price

5   should be equivalent between those paid by

6   interactive services and those paid by

7   noninteractive services?

8   A.   It would not indicate that those ratios

9   should be the same, even if convergence is true.

10   Q.   Reason is?

11   A.   The downstream market, competition

12 there does not lead to this equilibration in the

13 upstream market. There is no theory that implies

14 that. Professor Rubinfeld has offered none at all.

15 It's just disconnected.

16   Q.   Now at Pages 46 and 47 of your written

17 rebuttal testimony, you note that Professor

18 Rubinfeld's convergence argument in this respect is

19 not only flawed, you call it dangerous.

20   Do you recall that?

21   A.   I do.

22   Q.   What did you mean when you wrote that?

23   A.   I meant that if you accept convergence

24 as a basis for using the interactive benchmark,

25 then you are in real danger of taking a monopoly

1 rate that we see in the interactive market and

2 importing it over to the statutory market where we

3 are trying to establish a rate that reflects

4 competition. That would be, I think undesirable

5 for a lot of reasons, and would essentially

6 propagate the monopoly situation into another

7 market.

8   Q.   Now turning back to the factual basis

9 for Professor Rubinfeld's convergence thesis, what

10 form of investigation do you understand Professor

11 Rubinfeld to have undertaken to reach his

12 conclusions?

13   A.   In his written direct testimony, he has

14 a section devoted to convergence and he described

15 some similarities between the services, interactive

16 and statutory services, and offered some other

17 qualitative discussion that is the basis for

18 convergence.

19   Q.   How would you assess the degree of

20 persuasiveness or rigor of Professor Rubinfeld's

21 methodology as an economist to determine whether

22 two products are reasonably close substitutes?

23   A.   I'll leave it to the judges to assess

24 persuasiveness, but I can assess rigor. I think

25 this is really quite inadequate in terms of --

1 let's go back.

2 The question at issue is: Are

3 interactive services and statutory services

4 relatively close substitutes? That has a specific

5 meaning to an economist, substitutes. Is there a

6 lot of substitution by listeners from one type of

7 service to the other, if -- depending on the

8 relative prices or the qualities. That is what

9 economists mean by substitutes, and we measure that

10 through cross elasticity or diversion.

11 The starting point to do that is to

12 look in that market where the two types of products

13 compete, which is the downstream market, and

14 Professor Rubinfeld did not even do the first step,

15 which would be to look at market shares in that

16 market.

17 If you could flip back to -- what slide

18 is it here -- Slide 4 in this deck, we covered this

19 -- it was ten days ago, but...

20 CHIEF JUDGE BARNETT: Was it really

21 that long ago? Times flies when you're having fun.

22 THE WITNESS: I was having fun. I

23 don't know about you.

24 So just to remind you, this is the

25 market shares in the downstream market. So that's

4478

1 a good starting point. By Professor Rubinfeld did

2 not even do that.

3   BY MR. RICH:

4   Q.   Did you -- based on your review of

5 Professor Rubinfeld's written direct testimony, did

6 you locate any empirical evidence that he drew on

7 to indicate the significant numbers of listener

8 substitute between these two ways of getting music

9 in response to small changes in the relative price

10 or quality for the prices -- or -- between these

11 services?

12   A.   No. He did not do that type of

13 analysis to assess the -- whether they're

14 relative -- a close substitute.

15   Q.   Let's turn to any analysis you have

16 done of the issue of potential close

17 substitutability.

18   Have you performed any analysis along

19 those lines?

20   A.   Well, the starting point is here

21 already in Figure 2. So we look at the market

22 shares. And this is common for industrial

23 organization economists.

24   So the first thing that jumps out --

25 and I had mentioned this when I was here before --

4479

1 in Figure 2 is that terrestrial radio is basically

2 half of the market. And so that is a really

3 dominant feature. So I've looked into what the

4 relationship between Webcasting and terrestrial

5 radio, in particular. And that's what really I

6 think we find pretty clearly in the empirical

7 evidence is that Webcasting and terrestrial radio

8 are close substitutes.

9   Q.   What is your understanding of what

10 analysis Professor Rubinfeld engaged in with

11 respect to the role which terrestrial radio plays

12 in the downstream market?

13   A.   Well, he virtually ignores it. I think

14 he mentions it once or twice in passing in his

15 written direct testimony. So a very limited role

16 in his analysis.

17   Q.   Did you review any survey work that was

18 done in connection with this proceeding addressing

19 the topic of potential close substitutability

20 between interactive service offerings and

21 noninteractive offerings?

22   A.   Yes. So this is -- I believe you're

23 referring to the work by Larry Rosin, his survey

24 work regarding basically what -- how people are

25 shifting their listening, and their willingness to

4480

1 pay for subscriber services.

2   Q.   And you reproduced certain of his

3 results as part of this deck at the beginning of

4 Page 17?

5   A.   Yes. That's right.

6   Q.   And could you walk the judges through,

7 as you do in your written rebuttal testimony, some

8 of the conclusions relevant to competition in this

9 downstream market drawn from your analysis and

10 understanding of Mr. Rosin's survey results?

11   A.   Sure. I'm happy to. So let's start at

12 Slide 17. And I know that Mr. Rosin has already

13 testified here, and you've seen these. So I'm

14 going to confine myself to how I used them and how

15 these results fit into my analysis.

16   So Slide 17, his figure 11, the

17 question: "Is the time you spend listening to

18 Pandora mostly replacing the time you used to spend

19 listening to," and then we see the answers.

20   So first just that question. That's

21 the type of substitution question that economists

22 are interested in. And the way I think about this

23 generally is streaming is growing, obviously. And

24 the question is where is it taking listening time

25 from, or what's it's effect overall?

4481

1   And we're going to come back to this a

2   lot tomorrow as well. So what we're seeing here is

3   actually half of the listening time is new

4   listening. Okay. Which that's going to be

5   particularly important for other reasons.

6   But the convergence theory would say

7   the additional time listening on Pandora would be

8   coming at the expense of an interactive service, if

9   they were -- that's what you'd look for, to see if

10   they've a relatively close substitute.

11   And you absolutely do not see that.

12   The on-demand music service like Spotify or

13   Rhapsody here, is the tiny I guess orange or red

14   sliver. It's 1 percent. A much larger chunk, as

15   orange, is coming from terrestrial radio listening.

16   So that's a strong support for the

17   statement I made earlier that terrestrial radio is

18   a much closer substitute for Pandora than is

19   Spotify, for example.

20   Q.   And turning to demonstrative 18, which

21   is another of Mr. Rosin and Edison Research's

22   conclusions, what's the relevance of that to this

23   discussion?

24   A.   This is essentially the same finding

25   except we're asking -- he's asking a different set

4482

1   of listeners. And these are -- if you look in the

2   lower-right corner, he reports the base, which is

3   who got asked this question. These are people who

4   have listened to other online music services in the

5   last week. Not Pandora.

6   So basically the results we just had

7   for Pandora apply for the other Webcasting

8   services.

9   Q.   And what's the most relevant pie wedge

10   that addresses Professor Rubinfeld's thesis?

11   A.   So again, the coloring is the same. So

12   it's the -- here we have 2 percent of the listening

13   is coming at the expense of Spotify or Rhapsody.

14   We had 1 percent before. Those are both very

15   small.

16   And now the terrestrial radio happens

17   to be a bit bigger. And the new listening times

18   remain, by far, the largest, the purple. So we're

19   getting the same story here.

20   JUDGE STRICKLER: You said a moment ago

21   with regard to the largest pie wedge there, the

22   purple wedge, new listening time not taken from

23   other sources of audio listening is going to be

24   important for other reasons.

25   Are you going to be addressing that in

4483

1 your rebuttal testimony or in your direct

2 testimony?

3   THE WITNESS: It's going to come up in

4 my rebuttal testimony because it's one of the

5 reasons that Webcasting adds to record company

6 revenues. To the extent it's causing people to

7 listen more, it's generating incremental revenues

8 to the record company. That's our very next topic

9 in -- if we get to it today.

10   It's also going to come up in the

11 direct testimony because it's one reason the

12 opportunity costs to a record company of licensing

13 to a Webcaster is low, because Webcasting is not

14 cannibalizing other sources of music revenues.

15   JUDGE STRICKLER: Thank you.

16   JUDGE FEDER: Professor, if you turn

17 back to Figure 11 on Page 17, the question that was

18 posed was: "Is the time you spend listening to

19 Pandora mostly replacing the time you used to spend

20 listening to"...

21   And you opined that that means that

22 traditional over-the-air AM/FM radio is one of the

23 main sources of substitution for Pandora.

24   The way the question was posed is

25 really the other way around. Pandora is a

4484

1   substitute for people who are listening to AM/FM

2   radio.

3   Is it possible that the way the

4   question was structured overlooks an effect of

5   people using Pandora, if you will, as a gateway to

6   other types of music services?

7   THE WITNESS: Yes. I think it might

8   miss that because it's a snapshot. And I totally

9   take the first part of your question -- I agree

10 with that.

11   This is really strong substitution from

12 terrestrial radio to Pandora, which is one reason I

13 made the point. Streaming is growing. It's

14 cutting into other forms of listening and adding

15 new listening.

16   We're not seeing a lot of substitution

17 going the other way, people, you know, stopping

18 Pandora and turning on the radio. That's not the

19 phase of the world we're in.

20   But this other gateway type of thing,

21 you're just not going to pick that up in this

22 survey. I don't think it's capable of doing that

23 as a snapshot: What did you do now versus -- how

24 did you spend your time listening now versus

25 recently.

4485

1   JUDGE FEDER: In a sense, isn't that

2   question really the question that the whole concept

3   of convergence is trying to get at?

4   THE WITNESS: I don't think so. I

5   would say no. Because, again, as described by

6   Professor Rubinfeld, the view is that interactive

7   and noninteractive are close substitutes.

8   And again, I will have trouble with the

9   theory because it doesn't really connect to the

10 benchmarking exercise. But it is a statement

11 about, if Pandora gets better, they would be -- the

12 whole notion is, if they get better, people would

13 shift from Spotify to Pandora; or if Spotify gets

14 better, they'd shift the other direction. It's

15 that tug between the two.

16   And there is some of that, to be sure.

17 But it's really dwarfed by these other forces.

18   BY MR. RICH:

19   Q.   If you could turn to Slide 19, please,

20 which is another -- a reproduction of another of

21 Edison Research's survey findings.

22   What do you derive from that relevant

23 to the instant conversation?

24   A.   Okay. So this is a different question,

25 just to get our heads into this, which is the

4486

1 question: For a paid on-demand -- on-demand

2 services, would you be -- how likely would you be

3 willing to pay 9.99 a month for such a service?

4   So is basically a way of scoping out

5 how many people are willing to pay ten bucks a

6 month for Spotify type of service.

7   And the answer is most people -- I

8 guess it's 88 percent are saying not at all likely

9 or not very likely. And they are asking people who

10 did use Pandora or another noninteractive online

11 service.

12   So this is, again, relevant to the

13 question we were just talking about, which is: Is

14 a Pandora user, are they kind of close to tempted

15 to sign up for Spotify for $10 a month? And the

16 answer is, by and large, no.

17   Q.   So again, just coming back to the main

18 premise here, which is, if one were testing as an

19 economist and trying to test fairly rigorously for

20 whether two products or service are relatively

21 close substitutes, just to be clear, what does this

22 slice at the pie -- no pun intended -- tell us

23 about that?

24   A.   This is telling us that the Spotify

25 on-demand services are not a close substitute for

4487

1   Pandora and the Webcasting services because the

2   current customers of Pandora are not attempted or

3   on the margin to shift to Spotify at $10 a month,

4   by and large.

5   Of course, some are. And some are

6   using both services. I know that. But we're

7   talking about, in the main, that's not the case

8   that they would want to switch.

9   Q.   And then turning to the next slide,

10   which asked the same question but at a lower price

11   point, what do you derive -- which is $4.99,

12   correct?

13   A.   Yes.

14   Q.   What do you derive from that?

15   A.   So not surprisingly, more people are

16   interested in Spotify at $5 a month than $10 a

17   month. But even so, you have -- would be 70

18   percent are saying not at all likely or not very

19   likely to subscribe.

20   These are, again, the users of Pandora

21   and other statutory services are not attempted to

22   or not inclined to go with an on-demand service for

23   $5 a month.

24   So look, this all fits with -- my

25   interpretation of all this is there is a place in

4488

1 the market for the interactive services, the

2 subscriber services, when say $10 a month, which is

3 Spotify's main price. It's not a widespread

4 appeal. It's more of a niche product for the

5 audiophiles. Very cool, and a bunch of people love

6 it.

7   But, you know, Pandora is primarily

8 competing and seeking to grow in a -- a much bigger

9 game, if you will, with many larger -- much larger

10 number of subscribers. And their route to growth

11 is terrestrial radio.

12   So this notion that, you know, they're

13 head-to-head going after each other for the same

14 type of customers is really not supported by this

15 evidence and other evidence.

16   Q.   Finally, by way of evidence, if you

17 have your written rebuttal testimony handy, I'd ask

18 you to turn to Page 56, please.

19   A.   Yes.

20   Q.   And you make reference there in the

21 third paragraph down to a study performed by Bain &

22 Company for Universal Music.

23   Do you see that?

24   A.   Yes, I do.

25   Q.   What do you cite that for?

4489

1   A.   So first off, this is a -- you can see

2 there's a footnote there. This is an October 2014

3 Bain study that was done for Universal.

4   And I cite this for their conclusion

5 here on the slide that reads: "Lean back streaming

6 stealing share from terrestrial radio."

7   And they've some bar charts here to

8 show what's happened from 2011 to 2014. And what

9 you see there is Pandora growing significantly and

10 terrestrial radio declining.

11   So that's, you know, another piece of

12 empirical evidence supporting the proposition that

13 I've been developing the last few minutes that

14 Pandora and terrestrial radio are close

15 substitutes.

16   Q.   Barring any questions from the judges,

17 let's -- on this topic, let's move to the sixth

18 topic in your written rebuttal testimony that we're

19 covering, which is what was labeled "Preservation

20 of Revenues."

21   So in your written rebuttal testimony,

22 beginning at page 47, you discuss what you term as

23 SoundExchange's preservation of revenues argument.

24   What are you addressing in that section

25 of your testimony?

1   A.   This is the argument put forward by

2   some of SoundExchange's witnesses that the

3   Webcasting has caused a significant decline in

4   their record company revenues, and they need to

5   preserve those revenues in order to get a

6   reasonable rate of return and -- going forward.

7   Q.   And have you analyzed that proposition?

8   A.   Yes, I have.

9   Q.   And what conclusions have you reached?

10   A.   I think that it's simply not true as a

11   factual matter that Webcasting has caused a

12   significance decline in record company revenues.

13   I also think it is -- this will sound

14   familiar now -- disconnected from the benchmarking

15   exercise, by and large, for various reasons we can

16   talk about.

17   Q.   And why don't we start with the second.

18   Why is it disconnected from -- by

19   "disconnected from," is that another way of saying

20   it should be irrelevant to the exercise?

21   A.   That might be a little strong for me.

22   Q.   All right.

23   A.   But let's just say it doesn't take us

24   to -- it doesn't get us anywhere in the

25   benchmarking exercise by the way it's been

1 presented by SoundExchange.

2   Q.   Why is that?

3   A.   So as a starting point, revenues -- why

4 would you look at revenues -- if anything, you'd

5 look at profits. And the record company profits

6 are healthy, are higher than they've been in the

7 past.

8   And, of course, the difference between

9 revenues and profit is cost. So the starting point

10 of looking at revenues I think is mistaken. And

11 so -- for one thing.

12   And the other thing is there's no

13 economic law that says revenues can't fall for an

14 industry. Pretty -- pretty common, when the

15 Internet comes, actually, and there's some

16 disintermediation and from lower cost of

17 distribution, that we would expect revenues to

18 fall.

19   JUDGE STRICKLER: Question for you,

20 Professor. I understand what you're saying about

21 how the marketed would work and how revenues might

22 fall when a disruptive service comes in.

23   But if we look at Section 114 of the

24 statute, it says one of the things that we're

25 supposed to consider and therefore must consider --

4492

1   congress telling us what to do -- is whether use of

2   the service may substitute for or may promote the

3   sale of phonorecords or otherwise or otherwise may

4   interfere with or may enhance the sound recording

5   copyright owners' other streams of revenue from its

6   sound recordings.

7   So while, in the -- an unregulated

8   market, not only not regulated by us but not

9   regulated by congress, we would say that's a

10   disruptive thing. We have competition, and maybe

11   revenues fall. Maybe the supply of sound

12   recordings available falls, and that's the market

13   working its own particular dynamics.

14   But since we have to be concerned with

15   it, don't we have to just focus in on whether and

16   to what extent the noninteractive services may

17   impact upon revenues.

18   A.   Yes. Absolutely. So I think built

19   into all parts of my testimony is the notion that,

20   if a -- let's say Universal negotiates with

21   Pandora, just to make it specific. If Universal

22   believes correctly, let's say, that Pandora will

23   cannibalize other revenue streams, then Universal

24   would not be inclined to offer a very low rate to

25   Pandora. Doesn't pay for them. Okay?

4493

1   That -- but you should totally take

2   that into account. And I am. Okay?

3   I'm -- what I'm saying here is the

4   decline in revenues -- I'm about to go through the

5   data -- that the record companies have experienced

6   is predominantly not the result of Webcasting.

7   JUDGE STRICKLER: I understand that.

8   But you were making two points. So I wanted to

9   focus you on that latter point that you just made.

10   Because if noninteractive services were

11   causing the decline in revenue, we've got a

12   statutory obligation to consider that. And it's

13   your point, which may be the more important point

14   for us to consider, is whether or not that's

15   happening.

16   THE WITNESS: Well, okay. But let me

17   push on the other point, too, if I may, which is I

18   believe what's happening -- we're going to talk

19   about this more tomorrow -- is that Pandora and

20   iHeart are looking for direct licenses or looking

21   to activate competition in the statutory market, to

22   get better rates by shifting the music in the

23   direction of record companies that give them better

24   rates.

25   Let's suppose -- and I think this is

1 happening -- that that puts competitive pressure on

2 the record companies and also what causes the

3 revenues to fall.

4   I don't think you should be stopping

5 that -- I don't think you should -- how should I

6 put this? That would be, I would say, a natural

7 part of the workings of a competitive market, and

8 you should not close the door on that.

9   Now, at the same time, competition --

10 when Universal sits down and negotiates with

11 Pandora, and Pandora says, "Well, if you give us a

12 discount, we'll play your music more," Universal

13 could say, "Well, that's tempting, but actually I

14 think you cannibalize a lot of my other sales."

15 Suppose they thought that. They're going to say

16 no.

17   So we can account for competition and

18 at the same time properly account for this

19 cannibalization to the extent it's going on. And

20 that still may lead to a loss of revenues.

21   I think the market is showing signs of

22 becoming more competitive. And that will lead to a

23 loss of revenues even when all the sellers fully

24 account for the effect on their other revenue

25 streams.

 1   JUDGE STRICKLER: So you can account

 2 for cannibalization and adjust for the lack of

 3 competition. They're not mutually exclusive.

 4   THE WITNESS: And I'm going to argue

 5 that the Merlin benchmark that we're going to be

 6 presenting tomorrow is very good for that purpose.

 7   JUDGE STRICKLER: Thank you.

 8   BY MR. RICH:

 9   Q.   So let's turn directly now to the basis

10 for your conclusion that the statutory Webcasting

11 services are not the primary reason for the decline

12 in record industry revenue.

13   That's what you cover extensively in

14 your written testimony of Pages 49 to 62. So could

15 you begin to summarize the highlight of that

16 analysis, please.

17   A.   Yes. I think that easiest way to do

18 this is if Your Honors could turn to Slide 21. And

19 since it's late, but I think -- I'm hoping we can

20 get through this without having to cut it in parts.

21   The -- so this is taken from Professor

22 Rubinfeld's written direct testimony. I think the

23 -- everybody's using this RIAA data for the record

24 company revenues. And we see the peak in 1999.

25 And then it's come down a lot since then.

4496

1   And this question came up, and I kind

2 of alluded to this when I was here last time. The

3 -- so just let me tell the story, and stop me if

4 you need to.

5   So if you look at the data here, what's

6 happened is, from the peak in 1999, I would draw --

7 I would flag for your attention what happens by

8 2010, which just look at that bar. That's

9 essentially all of the drop in revenues that we

10 looked at happened between 1999 and 2010.

11   And then you see the streaming, red

12 bars that are growing, of course. They're really

13 pretty small even by 2010.

14   Okay. And I have other evidence here

15 in the written rebuttal testimony indicating that

16 streaming just was not very much of a factor in the

17 overall market prior to 2010.

18   So I mentioned timing mismatch before

19 so -- when the question came up. So the vast

20 majority of the decline in revenues that the record

21 companies have experienced preceded the meaningful

22 growth of streaming.

23   So we're -- can be pretty sure, based

24 on that, that streaming -- and by the way, this

25 streaming here includes Webcasting and interactive.

4497

1 It's both types -- did not cause this decline

2 because it came later.

3   Q.   Have you reached a conclusion as to

4 what the primary drivers of that steep decline, in

5 fact, were?

6   A.   I think there's -- it's very clear

7 there that piracy is the cause. The record

8 companies have understandably been deeply concerned

9 with piracy since the late '90s, probably earlier,

10 but particularly since that time. It's all over

11 the documents. I don't think it's disputed.

12   And it also, by the way -- one of the

13 reasons, my understanding -- is that the record

14 companies agreed to basically go with digital

15 singles through iTunes was to combat piracy as

16 well. That unbundling of the album further

17 contributed to the decline in revenues. But that

18 was ultimately caused by a combination of

19 technological change and piracy.

20   All of that clearly is not because of

21 streaming.

22   Q.   So have you seen any empirical analysis

23 done by any of SoundExchange's witnesses that would

24 suggest that Webcasting has caused a decline in

25 record company revenues, not merely a correlation

4498

1 but a causation demonstration?

2   A.   Well, if we turn to the next slide,

3 this is, again, from Professor Rubinfeld's written

4 direct testimony where he sets side by side the

5 growth rates of streaming -- that's the blue, and

6 the streaming is growing year to year -- and the

7 shrinkage of the overall revenues -- that's the

8 red.

9   Now, let me be very clear because I did

10 hear Professor Rubinfeld on the witness stand. He

11 presented this in his written direct testimony.

12 And I'm responding to that.

13   I think he was -- said on -- when he

14 was here in the witness stand, in response to

15 questions, that he was not -- did not believe this

16 showed causation. Okay.

17   But he did present this chart, and I'm

18 responding to it.

19   Q.   You mention in your rebuttal testimony

20 at Page 52 that this exhibit is highly misleading

21 in its portrayal of data.

22   Do you recall that?

23   A.   I do.

24   Q.   How is it misleading?

25   A.   Well, I think the implication here to

1 visually look at this chart is to see streaming is

2 growing, quite nicely, in fact, and the overall

3 revenues are declining. And it certainly implies,

4 I would think to a normal viewer, that there's a

5 connection.

6   I think that that's not the case. And

7 one reason it's misleading is because it's only

8 percentage changes are shown here. Right? The

9 percentage growth of streaming, you know, 13.6

10 percent in 2009-'10, and the percentage decline in

11 overall revenue.

12   But if you look at the actual numbers,

13 look at them -- you get a very different picture.

14   Q.   And you depict that in your Figure 9 on

15 the next page?

16   A.   That's the next slide, Slide 23, Figure

17 9.

18   So this is exactly the same data,

19 exactly the same time period. And the red bars are

20 the decline of music revenues. So take 2009-'10.

21 The music industry -- from 2009 to 2010, revenues

22 decline by -- this says a billion dollars. These

23 are millions. So a thousand million -- it's a

24 billion dollars. Streaming grew by 83 million.

25 Okay?

4500

1   Now, if you go back -- you know, that's

2   the same figure we had on the previous chart where

3   they look kind of comparable. They're not

4   comparable. The scales are completely different.

5   And it's even more dramatic if you look

6   at the earlier years where, as I said, the decline

7   of revenue prior to 2010 was dramatic, and

8   streaming was really a blip.

9   Q.   Just to absorb this chart, to make sure

10   that everybody reads it the same way, the red bars

11   reflect total music revenue losses, correct?

12   A.   Yes. I hope I was clear about that.

13   Q.   And the blue bars reflect streaming

14   revenue gains; is that correct?

15   A.   That's correct. Yes. Sorry if I was

16   unclear about that.

17   But the other thing -- so his figure,

18   that's the one piece of empirical analysis I've

19   seen that SoundExchange has put forward to --

20   regarding this connection or really lack of

21   connection, I'm telling you, between streaming and

22   the record companies' revenue decline.

23   The other thing --

24   Q.   Let me just ask you, if I may, on

25   that --

4501

1   A.   Sorry.

2   Q.   -- staying with that figure for a

3 minute.

4   Looking at 2010 forward where the blue

5 bars outstrip in the three reported years -- the

6 last three reported years the red bars, does that

7 indicate anything meaningful to you?

8   A.   Yes. It does. But I think it's easier

9 to see if you go back to Slide 21. I mentioned

10 before that record company revenues had declined

11 quite dramatically actually from 1999 to 2010.

12   Since 2010, they've pretty much leveled

13 off. Not entirely. There's a small decline. But

14 they've pretty much leveled off. And you see this

15 in the documents as -- it's recognized as the

16 period in which revenues have stabilized. That's

17 the word, stabilized.

18   And so there's really two parts to what

19 I'm doing here. One is to say, from 1999 to 2010,

20 dramatic decline in revenues not caused by

21 streaming and not caused by Webcasting in

22 particular.

23   Then from 2010 to now -- although the

24 data we have here only goes through '13 -- but 2010

25 to now, revenues have stabilized.

4502

1   And now I think we need to ask -- and

2 this is I think right along the lines of your

3 question, Judge Strickler, what's been going on

4 since 2010 when streaming is getting to be a bigger

5 deal? What impact is it having on the other

6 revenue streams of the record companies?

7   And that's going to come in to the

8 willing buyer, willing seller, cannibalization

9 issues in the world that we're seeing it more

10 recently. And, of course, we're trying to look

11 forward for another five years.

12   Q.   And have you undertaken any further

13 investigation into that question, namely whether

14 statutory Webcasters did or didn't cause a decline

15 in record industry revenues over the time period

16 we've been examining?

17   A.   So yeah. Because I look at that pretty

18 closely.

19   Q.   And what have you looked at, and what

20 have you concluded from that?

21   A.   So this is where we come back to a

22 point we were at I guess a half hour ago, which is

23 the primary effect of Webcasting in terms of how

24 people are spending their listening time -- we saw

25 it in those charts from Mr. Rosin -- it's adding to

4503

1 new listening hours, and it's taking time away from

2 terrestrial radio. Okay?

3   Both of those are accretive to the

4 record companies. Because record companies don't

5 make any money on terrestrial radio listening. And

6 of course new listening is just gravy.

7   JUDGE STRICKLER: Did you find it at

8 all anomalous that, in Mr. Rosin's figures, he

9 found that 46 percent of the time -- replacement

10 time came from people who weren't listening to

11 music at all before? Looking at Slide 18.

12   THE WITNESS: Well, I wouldn't -- I

13 don't think it's people who weren't listening to

14 music. I think it's the extra time spent on

15 Pandora had previously not been listening time.

16   So I don't -- so, look, I can't swear

17 to the exact numbers. Okay. But I do see a lot of

18 people walking around with their phones with their

19 headphone on more than I used to. And mobile -- we

20 know mobile -- a large fraction of the listening

21 is -- on Pandora and the other services is mobile.

22   So I don't find it implausible that --

23   JUDGE STRICKLER: You're saying it's

24 people who might have been listening to music at

25 home or in the car, but when they walked around

1 previously, they weren't listening to music; and

2 now, given the mobile capacity, they have their

3 headphone on everywhere you go.

4   THE WITNESS: Exactly. Or they have a

5 little box playing music that streams.

6   So I think that's what we're picking up

7 in term -- and there are a lot of other pieces of

8 evidence, not just Mr. Rosin's survey here, that

9 indicates time spent listening -- you'll see TSL in

10 some of these documents -- has gone up.

11   And that's actually a historical trend.

12 Time spent listening has typically gone up and has

13 often been because of new technologies have come

14 along to make it more convenient. So I think

15 that's a chunk of what's going on.

16   I want to be very clear though. At the

17 same time, there is some degree of cannibalization

18 of other -- you know, there's some people, of

19 course, who are not buying CDs because they're

20 listening to Pandora. There are some people who

21 are not doing digital downloads.

22   So it's a mixture of these things. And

23 it's the net effect when you put all that together

24 that we're trying to explain. And I think we're

25 seeing revenue stabilization with streaming

1   contributing a lot to revenues now. They're

2   reducing some other the revenue streams but more

3   than making up for that in these two categories:

4   additional time spent listening and capture from

5   terrestrial radio.

6   BY MR. RICH:

7   Q.   And in your written direct testimony,

8   you cite the direct license agreements in evidence

9   entered into by both Pandora and iHeartMedia as

10   further evidence to disapprove the cause of the

11   decline in record industry revenues attributable to

12   noninteractive services; is that correct?

13   A.   Yes.

14   Q.   Could you explain that testimony?

15   A.   So we have in -- let's take the -- the

16   Pandora-Merlin agreement is an example, but it's

17   not the only one.

18   We have others where -- supposedly you

19   see record companies going to statutory Webcasters

20   and saying, "All right. You play my music more,

21   and I'm not going to get much of any more money."

22   Professors Fischel and Lichtman do

23   calculations regarding the iHeart deals in this

24   respect. And I have the same structure in the

25   Pandora-Merlin deal where up to 12 and a half

4506

1   percent more plays of the Merlin music on Pandora,

2   no extra money for Merlin.

3   So I love this type of evidence because

4   it's companies putting their mouth where their

5   mouth is in the sense why would the record

6   companies do that? Why would they say, "Play my

7   music more, but I don't need any more money."

8   They must value those plays. So at

9   last those incremental plays that we're seeing here

10 are net promotional. Okay? And that's what -- at

11 least in these instances, we have record companies

12 that their -- the deals they're cutting, their

13 actions speak directly to the net promotional

14 nature of Webcasting.

15   MR. RICH: Your Honors, the last topic

16 on the rebuttal side is Professor Shapiro's

17 analysis of the -- of Professor Rubinfeld's Apple

18 majors agreements.

19   I don't know what your preference is

20 about whether we continue that now or pick that up

21 in the morning.

22   CHIEF JUDGE BARNETT: I think we have

23 to recess at this point.

24   MR. RICH: Okay.

25   CHIEF JUDGE BARNETT: And just a

4507

1 heads-up. I do need to leave immediately tomorrow

2 at 4:15.

3   MR. RICH: Thank you.

4   MR. LARSON: Your Honors, we had

5 scheduled -- it wasn't on the letters that had been

6 sent, but Mr. Malone's client, Mr. Papish from

7 Harvard Radio, we had slotted him for last thing

8 tomorrow afternoon. And I know we're perhaps a

9 little behind already. And I'm not positive that

10 we're going to get to him, but we were hoping to

11 slide him in with Mr. Malone.

12   CHIEF JUDGE BARNETT: Do you have an

13 estimate of how much time he will be on the stand?

14   MR. LARSON: Mr. Malone before had said

15 he thought 15 to 30 minutes, I think, for his

16 direct.

17   MR. POMERANTZ: We expect less than ten

18 minutes of cross.

19   CHIEF JUDGE BARNETT: Okay. Well,

20 maybe there will be a break.

21   Will he be available earlier in the

22 day?

23   MR. LARSON: I don't know. I can check

24 with him. I think they're planning to come in in

25 the morning, but I'd have to check with him to see.

4508

1   And I can send an e-mail to let you know if that is

2   helpful.

3   CHIEF JUDGE BARNETT: Well, I think

4   we'll just have to kind of wait and see how the day

5   flows tomorrow.   But I would like to get that taken

6   care of.

7   I also know that Professor Shapiro has

8   spent probably more time on airplanes and in

9   humidity than he is accustomed to.

10   We'll be at recess until 9:00.

11   (Whereupon, the proceeding was

12   adjourned at 4:33 p.m.)

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